14.2

RECORD OF DECISION
DECLARATION, DECISION SUMMARY, AND RESPONSIVENESS SUMMARY

FOR

FINAL REMEDIAL ACTION
COAL CREEK SUPERFUND SITE
CHEHALIS, WASHINGTON

OCTOBER 1990

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 SIXTH AVENUE
SEATTLE, WASHINGTON

EPA

DECLARATION

SITE NAME AND LOCATION

Coal Creek (aka Ross Electric)
Chehalis, Washington

STATEMENT OF BASIS AND PURPOSE

This decision document presents the selected remedial actions for the Coal Creek Site, in Chehalis, Washington, which were chosen in accordance with the requirements of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). This decision document explains the factual and legal basis for selecting the remedy for this site.

The Washington State Department of Ecology concurs with the selected remedy. The information supporting this remedial action decision is contained in the administrative record for this site.

ASSESSMENT OF THE SITE

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response actions selected in this Record of Decision (ROD), may present an imminent and substantial threat to public health, welfare, or the environment.

DESCRIPTION OF THE SELECTED REMEDY

The remedial actions described below are the only response actions planned for the site. They are intended to address the principal threats posed by PCBs and other contaminants at the site. Long-term management controls are an important part of this remedy to maintain the integrity of the cleanup.

The major components of the selected remedy are:

- asbestos removal and demolition of on-site structures
- rigorous testing and segregation of the contaminated solids into batches containing greater than 1) 50 parts per million PCBs and 2) from 1 to 50 parts per million PCBs.
- on-site incineration of solids with greater than 50 parts per million PCBs
- on-site incineration or off-site treatment of contaminated fluids

- containment of incinerator ash and solids containing from 1 to 50 parts per million PCBs in a location above the maximum seasonal groundwater table and beyond the 100 year floodplain. These materials would be contained under an engineered cap.

- perimeter drainage systems to control the runon/runoff of surface waters

- deed restrictions and/or restrictive covenants to protect the cap and limit land and ground water use

- monitor site conditions for a minimum of five years to assess the potential for contaminant migration

DECLARATION OF STATUTORY DETERMINATION

The selected remedy is protective of human health and the environment, complies with Federal and State requirements that are legally applicable or relevant and appropriate to the remedial actions, and is cost-effective. This remedy utilizes permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable, and it satisfies the statutory preference for remedies that employ treatment that reduce toxicity, mobility, or volume as their principal element.

Because this remedy will result in hazardous substances remaining on-site, a review will be conducted within five years after commencement of remedial actions to ensure that the remedy continues to provide adequate protection of human health and the environment.

10-17-96
Date

Acting Regional Administrator
Environmental Protection Agency
Region 10

CHRISTINE O. GREGOIRE
Director

STATE OF WASHINGTON

DEPARTMENT OF ECOLOGY

Mail Stop PV-11 • Olympia, Washington 98504-8711 • (206) 459-6000

Mr. Gerald A. Emison
Acting Regional Administrator
Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle Washington 98101

Re: Record of Decision - Coal Creek Superfund Site, Chehalis, Washington

Dear Mr. Emison:

This letter serves to indicate that Ecology concurs with the published U.S. EPA document entitled, "Record of Decision Declaration, Decision Summary, and Responsiveness Summary for Final Remedial Action, Coal Creek Superfund Site, Chehalis, Washington," dated October 1990.

I am pleased to witness a significant accomplishment by your agency in the remediation of a Superfund site within Washington State.

Sincerely,

Christine Gregoire

Christine Gregoire
Director

CG:cd(RS4/1)

DECISION SUMMARY
FINAL REMEDIAL ACTION

COAL CREEK SUPERFUND SITE
CHEHALIS, WASHINGTON

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SITE NAME AND LOCATION

Coal Creek Site, also known as Ross Electric
Lewis County, Washington

SITE DESCRIPTION

The eight acre Coal Creek site is an inactive transformer salvage facility located adjacent to Coal Creek approximately one mile northeast of Chehalis, Washington. The facility address is 346 Coal Creek Road, Chehalis, Washington 98532 (see Figure 1). The site is bounded by Coal Creek to the south and west and by Coal Creek Road to the east. The northern border of the site is marked by an eight foot high fence that encloses most of the site.

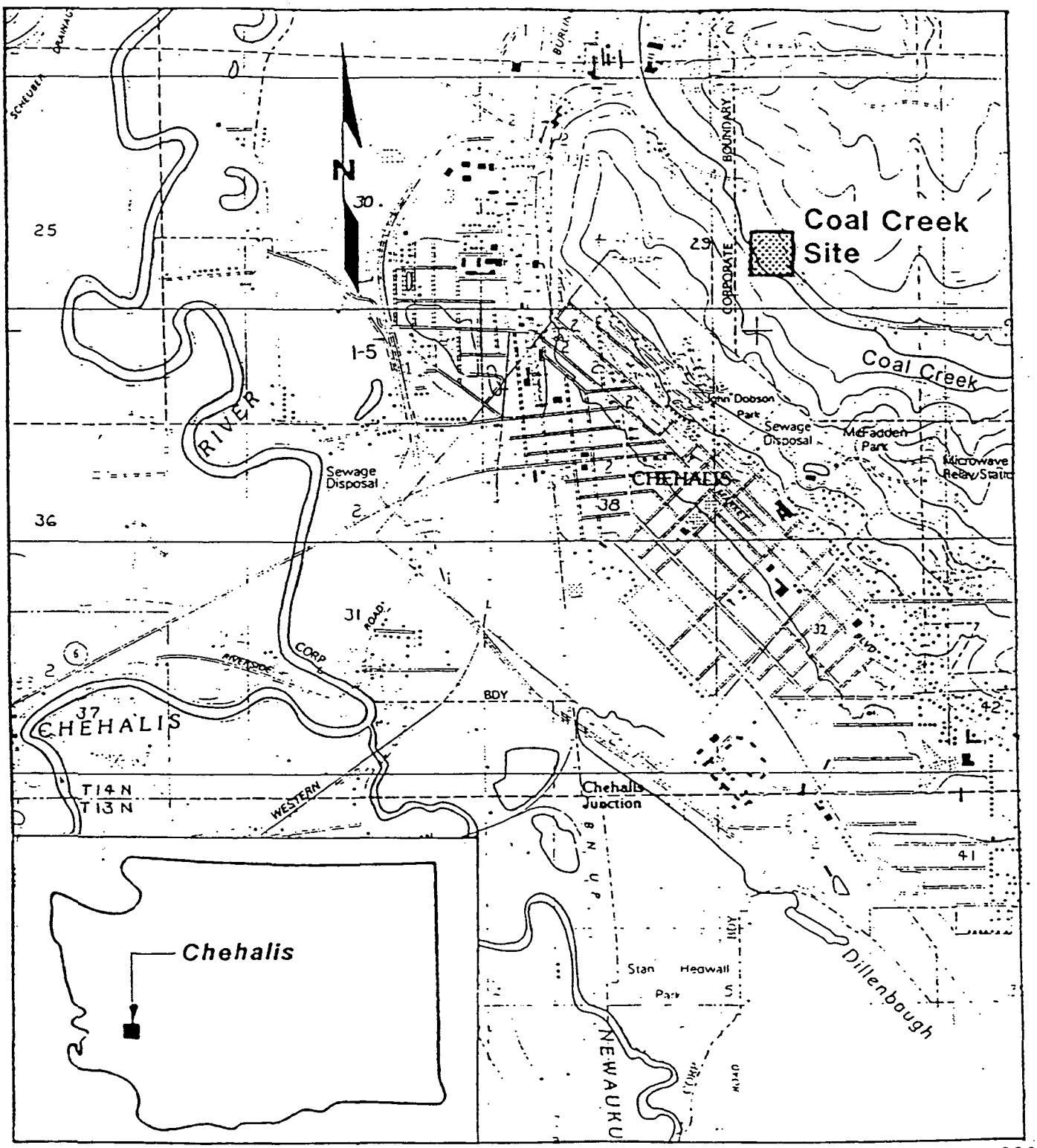
The prominent site feature is a mound of fill material located in the northeast corner of the site. This mound covers approximately one-fourth of the total site area and is composed of two to eight feet of fill material including native silt and clay soils, ash, coal remains, and mixed debris from the transformer scrapping operations. A one to two foot thick sand and gravel cover was placed over the fill as a working surface for vehicle access when the facility was operating.

Special features at the site include a shop building, a gasoline pump and underground gasoline tank, septic tank and leachfield, underground oil storage tank, oil-water separator, and several subsurface drains. A drainage ditch extends from the southwest corner of the fill mound and meanders through the wetlands to the west where it discharges to Coal Creek. These features and their approximate locations are noted on Figure 2.

The site is situated in an alluvial valley incised in bedrock and occurring within the Centralia-Chehalis Lowland region. The valley is approximately 600 feet wide in the area of the project site. Located in the floor of the valley, Coal Creek is the receptor for all local surface water drainage including that from the site. There is evidence that Coal Creek periodically overflows its banks. The extent of flooding predicted for a 100-year flood in the Coal Creek Valley is presented in Figure 3. In January 1990, a flood of this magnitude submerged much of the wetland surrounding the fill mound. Flood waters inundated the drainage ditch and reached portions of the southwest corner of the fill mound.

The Coal Creek valley is largely undeveloped at present with few people living in the immediate vicinity of the site. One home is located adjacent to the northern site boundary and another occurs across Coal Creek Road and up-valley from the southeast corner of the site. No other homes are located within 600 feet.

Vicinity Map



Base map prepared from USGS 7.5-minute quadrangle of Centralia, Washington, dated 1985.

Figure 1

FEATURES MAP

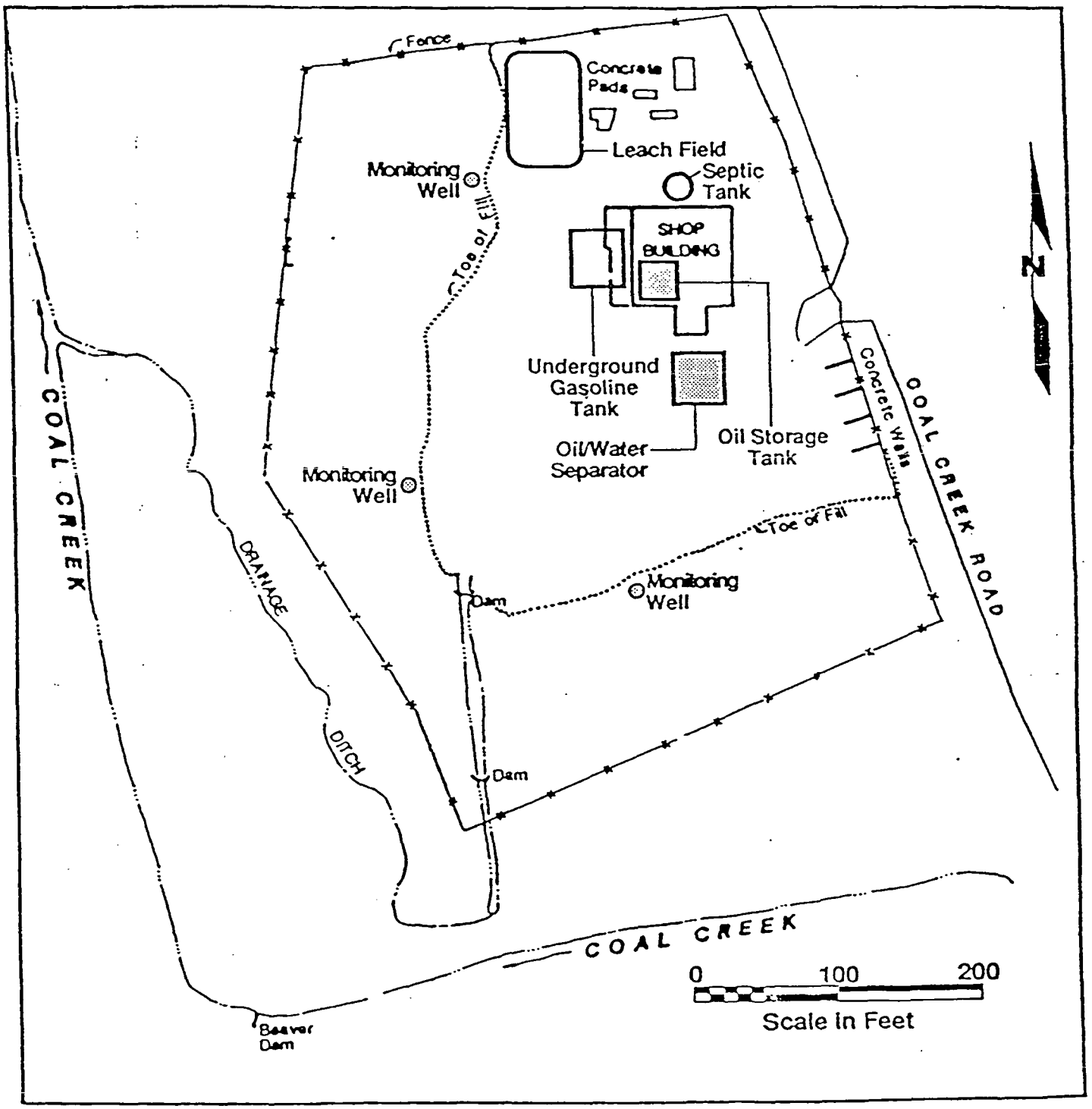


Figure 2

Fifteen homes are located within 0.5 mile of the site, eight homes down-valley to the south and seven homes up-valley to the north.

The predominant land use pattern can be described as rural residential with some light commercial activity. In a few instances, land is being used to pasture horses and other stock. Surface water resources in the vicinity of the site are not utilized for drinking water. Small quantities of surface water may be used for watering livestock or crop irrigation based on documented surface water rights. According to field biologists for the Washington State Department of Wildlife, Coal Creek has been extensively altered by development and now provides relatively poor fishery habitat. Stream water quality is characterized by high turbidity, high temperatures, high nitrate levels and low flows.

There are no homes within 2200 feet of the site that rely on groundwater for their water supply. City water service extends from the base of Coal Creek valley to a point 0.5 mile upstream from the site. All homes without city water are located upgradient from the site. In homes without city water, water quality and/or quantity have been reported by users as moderate to poor. Only two homes, sharing a single well, have both adequate water quality and quantity.

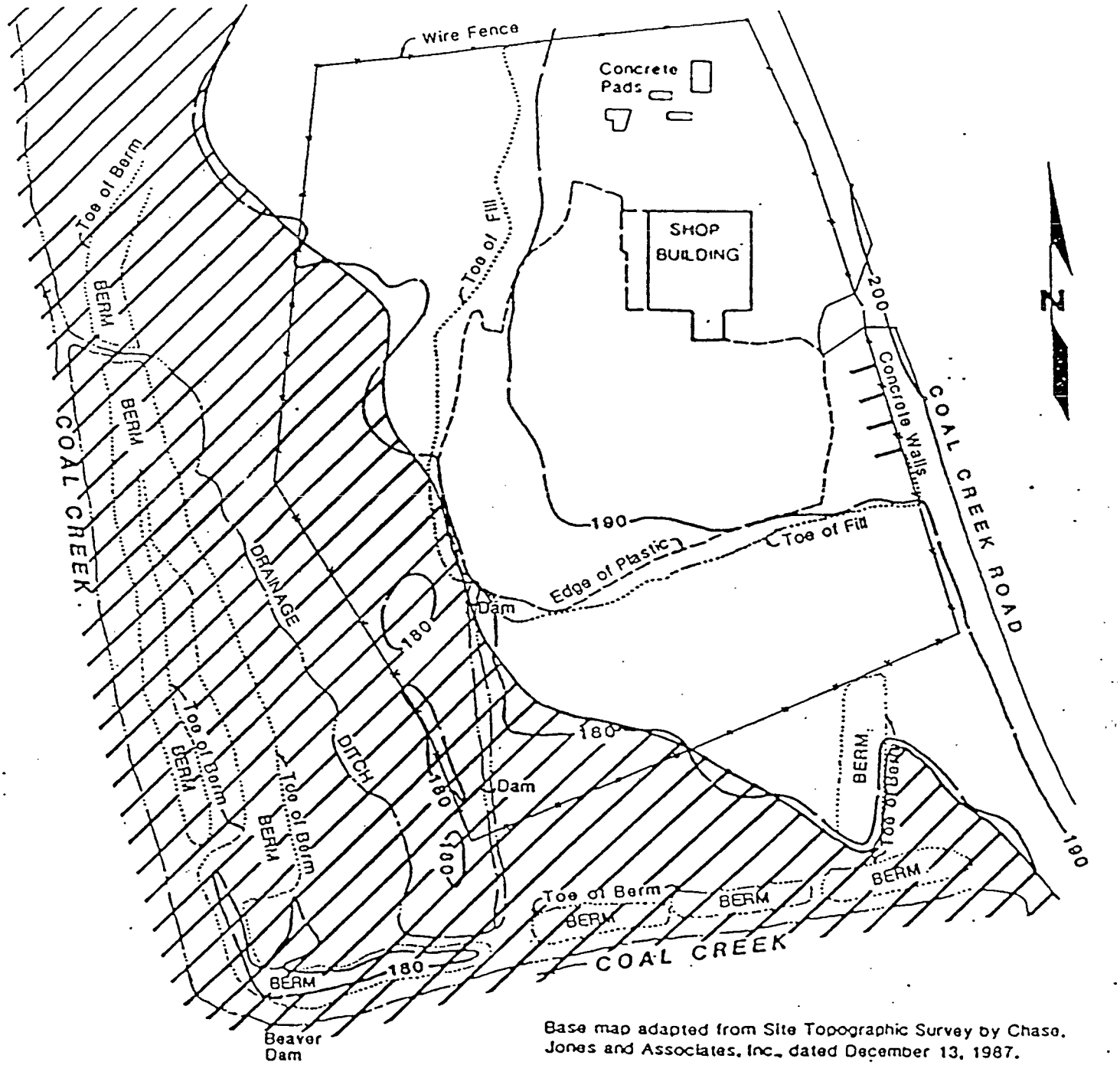
Wildlife is expected to be typical of wet lowland conditions in the region. The only signs of wildlife observed during the field program were backwater areas along Coal Creek apparently excavated by beavers and an owl which has taken up residence in the shop building. The site probably provides some habitat for deer and small mammal populations throughout the year.

SITE HISTORY

The Coal Creek Site has been owned primarily by utilities since the early 1900s. Documented use of the property for industrial purposes dates back to 1935 when Puget Sound Power and Light Company operated a coal fired steam generation plant. Coal ash and cinders were deposited on site as evidenced by soil horizons which contain varying amounts of these materials. Since 1949, the property records indicate site use associated with the manufacturing, repairing, and scrapping of electrical equipment. The site was acquired by its present owner, the Lewis County Public Utility District, in 1948. The property was leased to Economy Transformer Company from 1960 to 1964, Spokane Transformer Company from 1964 to 1972, and Ross Electric of Washington, Inc. from 1972 to 1983. Transformer salvage operations ceased in 1983.

In the conduct of their operations at the Coal Creek site, these owner/operators engaged in activities involving the generation and/or handling of hazardous substances including, but

Limits of 100-Year Flood



Base map adapted from Site Topographic Survey by Chase, Jones and Associates, Inc., dated December 13, 1987.

Limits of 100-Year Flood
Based on drawing entitled "Flood Insurance Rate Map, Lewis County, Washington," by U.S. Army Corps of Engineers, dated December 15, 1981.

0 100 200
Scale in Feet

Figure 3

not limited to, polychlorinated biphenyls, chlorinated benzenes, lead, copper, zinc, mercury, polynuclear aromatic hydrocarbons, polychlorinated dibenzodioxins, and polychlorinated dibenzofurans. As a result of spills or intentional disposal, these hazardous substances and others have been released to the environment. Elevated concentrations of these site-related contaminants have been detected in soils, sediments, ground and surface waters, transformer incinerator ash, and in the contents of the underground storage tanks. Pathways of contaminant migration include surface water runoff, groundwater discharging from the fill mound, sediment migration down the drainage ditch which connects the fill mound with Coal Creek, and emissions in the form of volatile gases and fugitive dusts.

In 1983 and 1984, the potentially responsible parties took necessary actions to stabilize the site. These response actions included covering portions of the fill mound with plastic to control air emissions and prevent rainfall from percolating through contaminated soils, installation of plywood dams in the drainage ditch to retard migration of contaminated sediments, installation of monitoring wells to assess the extent of contamination in shallow groundwater, and erection of a perimeter fence to secure the site.

ENFORCEMENT ACTIVITIES

The EPA and Washington Department of Ecology (Ecology) have completed numerous investigations of environmental media at the Coal Creek Site. These investigations have been conducted pursuant to authorities in the Toxic Substances Control Act (TSCA), the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) as amended by the Superfund Amendments and Reauthorization Act (SARA), and the Washington State Dangerous Waste and Water Quality laws.

In February of 1983 Ecology issued a compliance order under State Water Quality Regulations requiring Ross Electric and Lewis County PUD to initiate certain site response/cleanup actions. Ross Electric terminated it's lease in September of that year and Lewis County PUD assumed responsibility for the site. Lewis County PUD, in partial satisfaction of the requirements of the Ecology order, stabilized the site as described above, conducted additional soils and groundwater investigations, and prepared a conceptual plan for site closure. These requirements were also the subject of an agreement between EPA and Lewis County PUD signed in April 1984.

Early in 1985, EPA notified Lewis County PUD of the need to conduct a removal site assessment to evaluate the threat of imminent and substantial endangerments posed by existing conditions at the site. Failure of the PUD to respond in a timely manner to EPA's notification resulted in the initiation of a site assessment by the EPA Technical Assistance Team (TAT).

During the period of April 1984 to May 1986, EPA issued information request letters to as many as 86 PRPs in exercise of its CERCLA 104(e) authorities. Information so gathered was shared amongst the PRPs to facilitate organizational efforts on their behalf. The PRPs formed the Coal Creek Steering Committee in 1986 to represent themselves in their communications with EPA.

After protracted negotiations with the Coal Creek committee, EPA signed a Consent Order in February 1988 with 66 PRPs requiring them to conduct a Remedial Investigation (RI) and Feasibility Study (FS) to characterize the nature and extent of contamination and evaluate remedial alternatives. Final RI/FS documents were received in August 1989 and supplemented by EPA-generated risk assessment documents in April 1990. On two occasions, January and May 1990, the PRPs were notified of the need to conduct additional investigations to assess impacts from a 100-year flood event and gather additional information on leaching characteristics of heavy metals found on the site.

EPA issued it's proposed plan for remediating site contamination on May 4, 1990. A public comment period on the RI/FS and the proposed plan was held from May 7 to July 6, 1990. A public meeting was held in Chehalis on the evening of June 6, 1990 to take additional comment on the RI/FS and the agency's recommended alternative.

COMMUNITY RELATIONS

The RI/FS Report and the Proposed Plan for the Coal Creek Site were released to the public for comment on May 4, 1990. These two documents were made available to the public in both the administrative record and information repositories maintained at the EPA Library in Region 10 and the Chehalis-Timberland Public Library in Chehalis, Washington. The notice of availability for these two documents was published in the Daily Chronicle on May 7, 1990. A public comment period on the documents was held from May 7, 1990 to July 6, 1990. In addition, a public meeting was held on June 6, 1990. At this meeting, representatives from EPA answered questions about problems at the site and the remedial alternatives under consideration. A response to the comments received during this period is included in the Responsiveness Summary, which is part of this ROD.

EPA Region 10 community relations activities at the site included the following:

- 1982-1983: EPA representatives attended several meetings in Lewis County to discuss PCB issues in general and siting concerns with the Ross Electric Logan Hill Facility in particular.

- February-March 1988: EPA met with members of the local community to discuss their concerns about the site as

the first step in development of a Community Relations Plan.

- February-March: EPA developed a mailing list including all property owners and/or tenants within a mile of the site.

- March 1988: the Community Relations Plan was published and distributed to information repositories. The administrative record was placed in the Chehalis-Timberland Public Library.

- April 1988: EPA prepared and distributed a fact sheet to persons on the mailing list. The fact sheet explained the Consent Order which was signed between EPA and the potentially responsible parties and described remedial investigation field activities.

- December 1988: EPA issued a fact sheet describing the significant findings of the remedial investigation and the future opportunities for public involvement.

- May 1990: Update of Administrative Record placed in Chehalis Library.

- May 3, 1990: EPA met with public officials in Chehalis to update them on site activities and brief them on the Proposed Plan.

- May 7, 1990: EPA distributes copies of the Proposed Plan to parties on the mailing list. The fact sheet outlined the RI/FS results and explained EPA's recommended alternative for site cleanup. The fact sheet also announced a public meeting to be held on June 6, 1990 and the dates of the public comment period. A public notice describing the proposed plan and public meeting was placed in the Daily Chronicle.

- May 7 to July 6, 1990: Public comment period on the Proposed Plan.

- June 4, 1990: A second notice for the public meeting on June 6 was placed in the Daily Chronicle.

- June 6, 1990: EPA held a public meeting to explain the findings of the RI, to discuss the evaluation of feasible remedial alternatives, and present the EPA Proposed Plan. A response to those comments is found in the Responsiveness Summary, which is part of this Record of Decision. A transcript of the meeting was prepared and is available in the Administrative Record and the information repository.

SCOPE OF RESPONSE ACTIONS

The remedial actions addressed by this Record of Decision are the only such actions planned for the Coal Creek Site. These remedial actions address the risks to human health and the environment posed by existing conditions at the site.

SITE CHARACTERISTICS

Geology and Soils

The site is located within the Coal Creek valley on a floodplain bounded by bedrock hills to the northeast and southwest. Near the site, the floodplain is approximately 600 feet wide and the unconsolidated sediments reach a thickness of 50 feet. The principal geologic units encountered at the site include fill materials, native alluvial sediments, and bedrock. The nature and extent of the fill material within the mound where most of the site contamination occurs is highly variable. North of the shop building, the mound is comprised primarily of mottled silts overlain by 6 inches to 3 feet of ash-rich soils. West of the shop building, the mottled silt fill becomes mixed with pockets of ash containing coal and cinder fragments. South of the shop building, the fill mound is composed of isolated pockets of debris, ash, and native silts.

Native soil in the site vicinity consists of a thick layer of continuous low-permeability silt. Information from borings suggest that the silt layer is from 5 to 20 feet thick with some sandy seams occurring at depth. Permeability of the native silts is estimated to range from 1×10^{-5} to 1×10^{-7} cm/sec.

Bedrock in the Coal Creek area consists of sandstone, siltstone, shale and coal. Below the site, bedrock is composed of silty sandstones to sandy siltstones and is first encountered at a depth of 50 feet in the middle of the valley.

Surface Water Hydrology

Surface water runoff from the contaminated fill mound area is primarily directed through a drainage ditch which discharges to Coal Creek. Local topographic depressions which occur southwest and west of the fill mound also serve

as collection points for surface waters. Runoff from the fill mound via the drainage ditch encounters two plywood dams acting as oil/water separators and an irregular channel before the probable point-of-entry with Coal Creek. The topographic depressions do not extend to Coal Creek or exhibit any well defined outlet. One of these depressions appears to be associated with an abandoned wood flume exposed during exploratory trenching operations conducted as part of the RI.

Hydrogeology

Groundwater at the Coal Creek Site is found primarily within confined sandy silt lenses in the alluvial sediments and temporarily perched above the lower permeability materials in the fill mound. Perched groundwater (i.e. subsurface water that has not yet reached the permanent groundwater zone) was observed seeping into the on-fill trenches.

The Coal Creek Site is located within a regional groundwater discharge zone, where hydraulic gradients direct groundwater flow towards the surface. Regional topography suggests that groundwater flows from the highlands northeast of the site toward the center of the valley where it discharges into Coal Creek or flows down the axis of the Coal Creek valley.

The fill mound area generates radial flow which is superimposed on the southwestern gradients recorded in the alluvial sediments. In addition to perched water conditions within the fill materials, the alluvial aquifer may rise into the fill at two locations in the southwest corner of the mound. Throughout the remainder of the fill mound, groundwater generally resides at 1 to 6 feet below the fill material. The presence of groundwater in the fill area appears to be an intermittent occurrence mainly during wet periods.

Extent of Contamination

Since 1949, the site has been used for the manufacture, repair, recycling, and scrapping of transformers and other electrical equipment. During this time, transformer fluid containing PCBs and chlorobenzenes was dumped or spilled on the grounds surrounding the shop building. Due to the persistent nature of these compounds, especially PCBs, significant on-site concentrations are still prevalent. Metals such as barium, copper, lead, mercury, and zinc have also been introduced as a result of the disposal of scrap electrical equipment. The presence of a coal-burning steam

generating plant on the site prior to 1949 also was a source of many trace metals. Waste ash from this facility is still visible on the property.

On-fill soils have been sampled extensively to characterize PCB contamination. Based on soil sampling between 1982 and 1989, PCB concentrations in surface soils range from 1 part per million (ppm) in the extreme northeast corner of the site to 1,000 ppm in the southwest corner of the mound. PCB concentrations are highest between depths of two and eight feet in the fill mound, reaching levels as high as 21,000 ppm.

Metal concentrations are highly variable over the fill mound with the highest concentrations detected near the southwest corner of the mound. Elevated concentrations of copper (31,000 ppm), lead (3,800 ppm), barium (1,200 ppm), mercury (20 ppm), cadmium (9 ppm), and zinc (5,300 ppm) were detected in on-fill trench samples taken from this area.

The only volatile organic compounds detected with any regularity in on-fill samples were chlorobenzenes. The most prominent compound found on-site was 1,2,4-trichlorobenzene, with a maximum concentration of 23 ppm. Chlorinated isomers of both dioxins and furans were detected at low levels in the on-fill soils. No 2,3,7,8-tetrachlorodibenzodioxin (TCDD), the most toxic of the isomers, was found in any on-fill soil samples. This isomer was detected at a concentration of .048 ppb in the boring from monitoring well MW-9. Samples of ash scraped from the wall of the burner had the highest levels of 2,3,7,8-TCDD (.25 parts per billion). This value, when combined with the toxic equivalents of the other dioxin isomers, did not exceed the 1 ppb action level in any of the samples analyzed.

PCB contamination of soils at the Coal Creek Site is primarily confined to the fill mound. The greatest PCB concentration reported in off-fill soils is 172 ppm immediately south of the fill mound near the oil/water separator discharge line. Other elevated concentrations were found along the southwest toe of the fill (93 ppm), within the wood flume (56 ppm), and the soil boring for monitoring well MW-9 (20 ppm). PCB concentrations generally decrease rapidly with distance from the fill, dropping to less than 10 ppm just south of the fill mound and to less than 1 ppm immediately west and north of the fill. Metals concentrations in off-fill soils rarely exceed background levels, suggesting that elevated metals concentrations are restricted to the fill mound and drainage ditch. A summary of site contaminants and maximum on-site values is presented in Table 1. A graphic depicting PCB concentration contours is included as Figure 4.

TABLE 1
Summary of Constituent Detections
at the Coal Creek Site

PARAMETER:	Soil/Sediment(mg/kg wet wt.) Detection Frequency	Soil/Sediment(mg/kg wet wt.) Maximum On-Site Value	Water(ug/L) Detection Frequency	Water(ug/L) Maximum On-Site Value
METALS(soil data as dry wt.)				
Antimony	0/9	10.0 U	4/19	28 J
Arsenic	19/19	32.0	11/27	68
Barium	9/9	1200.0	19/19	1060
Beryllium	9/9	2.2	11/19	14
Cadmium	6/19	10.0	3/27	140
Chromium	19/19	54.0	18/27	249
Copper	19/19	31000.0	22/27	570
Lead	15/19	3800.0	17/27	2300
Mercury	5/19	20.0	3/27	1
Nickel	19/19	64.0	17/27	205
Selenium	2/9	0.7	3/19	16
Zinc	9/9	5300.0 B	17/19	38000
VOLATILE ORGANIC COMPOUNDS				
Acetone	2/8	0.16	0/5	10 U
Benzene	0/8	0.01 U	3/16	1
2-Butanone	1/8	0.21	0/5	10 U
Carbon Disulfide	0/8	0.01 U	3/16	1
Chloroethane	0/8	0.02 U	10/16	2
Chloroform	0/8	0.01 U	1/16	1
Chloromethane	0/8	0.01 U	11/16	2
Ethylbenzene	0/8	0.02 U	2/16	3
Methylene Chloride	1/8	0.01	0/5	5 U
Tetrachloroethene	1/8	0.17	0/5	5 U
Trichloroethene	0/8	0.01 U	1/16	1
CHLORINATED BENZENES				
Chlorobenzene	0/8	0.02 U	1/16	17
1,2-Dichlorobenzene	0/13	0.09 U	2/21	2
1,3-Dichlorobenzene	2/13	0.76	2/21	4
1,4-Dichlorobenzene	3/13	1.60	2/21	7
1,2,3-Trichlorobenzene	3/4	0.22	0/4	1 U
1,2,4-Trichlorobenzene	3/13	23.00	1/21	2 J
1,2,3,4-Tetrachlorobenzene	1/4	0.40	1/4	1
1,2,4,5-Tetrachlorobenzene	3/4	0.15	1/4	2
PCBs AND RELATED COMPOUNDS				
PCBs:				
Aroclor 1260	23/39	210.00	6/21	2000
Total PCBs	169/220	21394.00	10/34	23000
Chlorinated Dibenzodioxins:				
2,3,7,8 TCDD	1/10	0.00005	0/0	
TCDD	0/10	0.00011 U	0/0	
PeCDD	1/10	0.00025	0/0	
HxCDD	1/10	0.00064	0/0	
HpCDD	1/10	0.00130	0/0	
OCDD	9/10	0.01130	0/0	

TABLE 1
Summary of Constituent Detections
at the Coal Creek Site

ARAMETER:	Soil/Sediment(mg/kg wet wt.) Detection Frequency	Maximum On-Site Value	Water(ug/L) Detection Frequency	Maximum On-Site Value
ılorinated Dibenzofurans:				
:,3,7,8 TCDF	0/10	0.00068 U	0/0	
:CDF	2/10	0.00100 J	0/0	
>eCDF	2/10	0.00005	0/0	
ıxCDF	4/10	0.00710	0/0	
ıpCDF	8/10	0.00860	0/0	
)CDF	7/10	0.01620	0/0	
THER SEMIVOLATILE RGANIC COMPOUNDS				
enzoic Acid	0/9	340.00	1/17	0.30 J
enzo(a)anthracene	1/9	1.90	0/6	11.00 U
enzo(a)pyrene	1/9	1.50	0/6	22.00 U
enzo(b)flouranthene	1/9	1.50	0/6	22.00 U
enzo(k)flouranthene	1/9	1.20	0.6	22.00
is(2-ethylhexyl)phthalate	4/9	28.00	4/17	56
hrysene	1/9	1.60	0/6	11
i-n-octyl phthalate	1/9	1.60	0/6	11
luoranthene	1/9	1.20	0/6	11
-Methylnaphthalene	1/9	0.50	1/17	1
-Methylphenol	0/9	14.00	1/17	0.40
aphthalene	0/9	27.00	1/17	0.70
enanathrene	1/9	0.71	0/6	11
yrene	1/9	1.20	0/6	11

U indicates analyte not detected. Value expressed is the detection limit.
J indicates analyte was detected below the established limit of detection.
B indicates the analyte was detected in the method blank associated with the sample.
D indicates analysis performed on a diluted extract.

PCBs are classified as probable human carcinogens. Non-carcinogenic adverse health effects are dose-related and may include dermatological (chloracne), hematopoetic, and hepatocellular changes. PCBs are persistent compounds in the environment, exhibiting a high affinity for particulate adsorption and a resistance to biodegradation. Sorption to organic matter and bioaccumulation in living tissues are expected to be the dominant environmental fate processes. Sampling at the Coal Creek Site indicates that PCBs have neither degraded to any significant degree nor migrated far from the primary source areas.

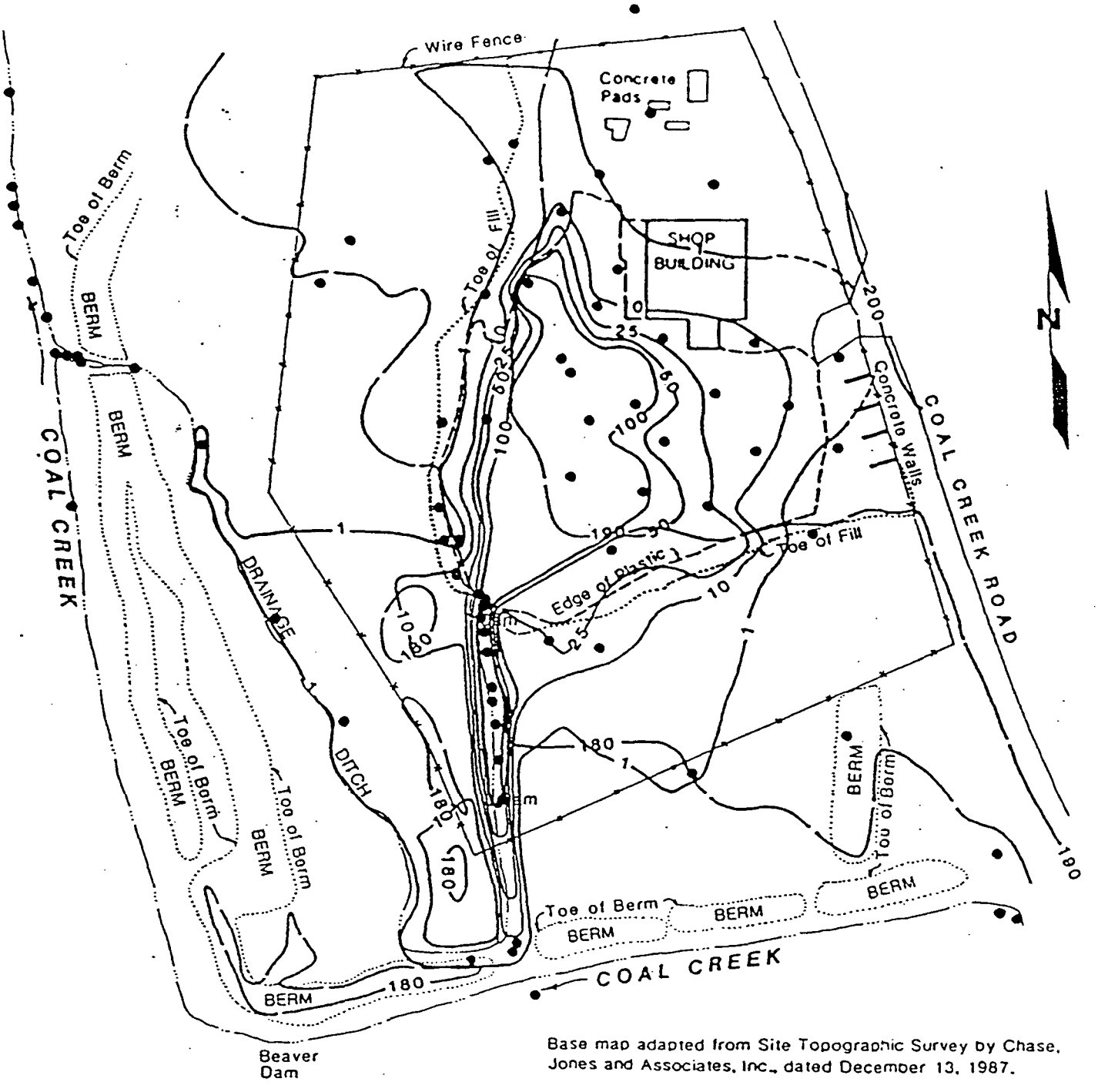
Of the heavy metals found on site in elevated concentrations, only lead is a probable human carcinogen. Elevated blood lead levels in children are also associated with encephalopathies and learning disabilities. The heavy metals copper and zinc are exotoxic to many aquatic species. Some of the metals detected on site tend to be mobile in the environment (e.g. copper) but significant migration off site has not been documented.

In addition to contaminated fill mound soils, other potential sources of contamination include subsurface pipes and flumes and underground storage tanks. Some of the highest concentrations of PCBs and metals have been detected in samples taken from these features. The total volume of contaminated solids requiring remediation has been estimated at 17,300 cubic yards, an estimated 8,300 cubic yards requiring treatment and an additional 9,000 cubic yards requiring containment. The volume of liquids requiring treatment, including groundwater residing in the fill mound, may range from several hundred gallons to several thousand gallons.

Routes of Contaminant Migration

Most of the existing contamination at the site is confined to the area of the fill mound. Potential routes of contaminant migration from the fill mound include surface water runoff, groundwater discharge, dust generation, and volatilization. Some contaminant transport has occurred by means of subsurface drains. The drainage ditch connecting the fill mound with Coal Creek serves as a mechanism for the transport of site contaminants to the surrounding wetlands. This pathway is especially significant in light of flood events and their ability to scour ditch sediments. In part due to the relative immobility of site contaminants (especially PCBs) and in part due to environmental factors such as adsorbent clay soils and an upward component of groundwater flow beneath the site, contamination on-site has not migrated far beyond the toe of the fill mound except for the drainage channel and subsurface conduits. Figure 4

PCB Concentration Contour Map
Surficial Soil and Sediment Samples



Base map adapted from Site Topographic Survey by Chase, Jones and Associates, Inc., dated December 13, 1987.

• Sampling Location

—10— PCB Concentration Contour in ppm

0 100 200

Scale in Feet

Figure 4

shows the approximate extent of contamination subject to remediation.

The individuals most likely exposed to site related contaminants are members of a family living adjacent to the site. The most likely routes of exposure are breathing contaminated dusts, skin contact with contaminated soils, and incidental soil ingestion. Because the highly contaminated soils are presently covered with plastic sheeting and the site is secured by an eight foot high perimeter fence, actual human exposures are improbable events. There are no known or suspected endangered or threatened species or other sensitive ecological populations which habitat in the vicinity of the site. Sampling data from Coal Creek in recent years does not demonstrate that this ecosystem has been significantly impacted by discharges from the site. The drainage ditch on site courses through a wetland prior to its confluence with Coal Creek. This wetland does contain low levels of site related contaminants but the impacts to vegetation and other wetland resources are neither readily apparent nor fully characterized.

SUMMARY OF SITE RISKS

Persons who may breathe contaminated dusts, get contaminated soils on their skin, or incidentally ingest soils through hand to mouth contact were identified as the population most at risk of adverse health effects from site-related exposures. The primary routes of exposure are inhalation, ingestion, and dermal absorption. PCBs, chlorobenzenes, copper, lead, zinc, and polychlorinated dibenzodioxins were recognized as the contaminants of concern. The excess lifetime cancer risk from the reasonable maximum exposure to PCBs in surface soils at the Coal Creek site is three in one thousand for persons who might live on the site under current conditions and seven in ten thousand for persons who might work at the site. Non-carcinogenic adverse health effects could result from long-term exposures to PCBs and certain heavy metals in soils at the site. Inhalation and/or ingestion of soils with elevated lead could, over a period of years, result in damage to the blood-forming system of exposed individuals, especially young children.

An assessment of the risks to public health and the environment under existing conditions at the Coal Creek Site involved a 4-step process involving the identification of contaminants of concern, an assessment of contaminant toxicity, an exposure assessment of the population at-risk, and a characterization of the magnitude of risk.

Contaminants of Concern

The Remedial Investigation identified soils and air as the exposure media of greatest concern at the Coal Creek

site. Human exposures via other media such as surface water and groundwater are considered less significant by comparison. Soils and air are the only media of interest considered here.

In all, a total of 17 contaminants were identified as indicator chemicals at the Coal Creek site. These include PCBs, eight metals (arsenic, cadmium, chromium, copper, lead, mercury, nickel, and zinc), tetrachloroethylene, 1,4-dichlorobenzene, 1,2,4-trichlorobenzene, 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD), and four high molecular weight polynuclear aromatic hydrocarbons (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and benzo(k)fluoranthene). Of these, PCBs, copper, lead, zinc, TCDD, and chlorobenzenes are considered contaminants of concern.

Of the organic contaminants of concern, PCBs account for the overwhelming majority of carcinogenic risk. Of the metal contaminants of concern, lead presents the greatest risk of both carcinogenic and non-carcinogenic effects. At present, toxicological criteria for lead are being revised and no reference doses or cancer potency factors are available for risk assessment purposes. Target remediation levels for lead in soils are evaluated using data from the Agency of Toxic Substances and Disease Registry (ATSDR). Lead levels in soils ranging from 500ppm to 1000ppm are being suggested as the point of departure for establishing cleanup goals. Data on contaminant distribution at the Coal Creek site indicate a strong correlation among site contaminants including PCBs and lead. Remediation of PCB contaminated soils is expected to effectively address the areas of lead contamination. Consequently, this discussion focuses on site-associated carcinogenic risk from PCB exposures only.

Toxicity Assessment

The EPA uses a weight-of-evidence system to convey how likely a chemical is to be a human carcinogen, based on epidemiological studies, animal studies, and other supportive data. The classification scheme for characterization of weight-of-evidence for carcinogenicity includes: Group A-known human carcinogen, Group B-probable human carcinogen, Group C-possible human carcinogen, Group D-not classifiable as to human carcinogenicity, and Group E-evidence of non-carcinogenicity in humans.

PCBs are classified by EPA as probable human carcinogens based on evidence from laboratory animal studies. The cancer potency value to evaluate carcinogenic risk from oral exposures is 7.7 (mg/kg-day)-1. Cancer Potency Factors (CPFs) have been developed by EPA's

Carcinogenic Assessment Group for estimating excess lifetime cancer risks associated with exposure to potentially carcinogenic chemicals. CPFs, which are expressed in units of (mg/kg-day)-1, are multiplied by the estimated intake of a potential carcinogen, in mg/kg-day, to provide an upper-bound estimate of the excess lifetime cancer risk associated with exposure at that intake level. The term "upper-bound" reflects the conservative estimate of the risks calculated from the CPF. Use of this approach makes underestimation of the actual cancer risk highly unlikely. Cancer potency factors are derived from the results of human epidemiological studies or chronic animal bioassays to which animal-to-human extrapolation and uncertainty factors have been applied. The data are insufficient to support establishing a potency factor for inhalation of PCBs. For purposes of this assessment, the oral potency factor was used to estimate risk from inhalation of particulate and volatile PCBs. In addition to toxicity through ingestion and inhalation of PCBs, they are also toxic when absorbed through the skin. However, risk estimates did not include dermal toxicity due to limited data on the potency through this route.

Oral toxicity studies in animals have established that the liver and cutaneous tissues are primary target organs of PCBs. Human health surveys have associated occupational exposure to PCBs with increased serum levels of liver enzymes and dermatologic effects such as chloracne and skin rashes. Hepatic effects include microsomal enzyme induction, possible hepatocellular damage, liver enlargement, fat deposition, and necrosis. Because they are lipophilic, PCBs are preferentially stored in adipose tissue and human milk. Concentrations of PCBs in human adipose tissue and milk fat are 100 to 200 times higher than in serum. Average PCB levels below 2 ppm in milk fat have normally been found.

Exposure Assessment

The population at greatest risk of adverse health effects from exposure to site-related contaminants are those persons living in the vicinity of the site who breathe air potentially contaminated with PCBs which have volatilized or been suspended on particles of dust. The primary routes of exposure to airborne PCBs are inhalation and dermal absorption. Other populations theoretically at risk would include on-site workers in the industrial scenario and persons living on-site under a future residential scenario. Routes of exposure for workers and residents would include incidental soil ingestion, inhalation, and dermal absorption.

Groundwater trapped in the fill mound (perched groundwater) is not readily accessible or extracted for beneficial use; therefore, it was not evaluated as a complete exposure pathway. Likewise, surface water in the drainage ditch is not used in any manner which would result in the potential for significant human exposures. Lack of reasonable human exposures notwithstanding, these contaminated media will be subject to remedial actions.

PCBs are strongly adsorbed in most soils; therefore, leaching will not generally occur. This implies that the exposure will be greatest at the point of initial adsorption. In many instances, this may be at or near the soil surface. The principal route of human exposure to PCBs from a spill in soil at a restricted-access outdoor site is through inhalation of contaminated air. Soil ingestion and dermal contact would not be expected to be significant routes of exposure at a limited access-site. Soil ingestion is considered the primary route of exposure from PCB spills at a nonrestricted residential site, although it is anticipated that some exposure would occur through inhalation also. Although dermal exposure can occur at soil sites where access is possible, it is expected that the PCBs will adsorb to the soil particles, reducing the rate of dermal absorption.

In general, consumption of fish has been identified as a primary route of human exposure to PCBs. PCBs partition significantly from water to aquatic organisms such as fish and can result in extremely high bioconcentration factors. Runs of anadromous fish in Coal Creek have not been documented in recent years nor is there any evidence of suitable fish habitat in the vicinity of the site.

Exposure-point concentrations were determined using both monitoring and modeling data. For dermal absorption and incidental soil ingestion exposures, measured PCB concentrations in surface and near-surface soils were used for dose calculations. Doses from inhalation exposures were estimated using modeled exposure-point concentrations.

Three exposure scenarios were examined to estimate hypothetical risks associated with potential future site uses. These exposure scenarios cover industrial, recreational and residential site use conditions. The assumptions used to calculate doses under each scenario are presented as follows.

1. Industrial Exposures

The reasonable maximum exposure (RME) was determined using an upper-bound (95th percentile) value of 281 ppm PCBs in surface soils. In calculating risk from hypothetical industrial exposures it was assumed that risks from dermal contact, incidental soil ingestion and inhalation were additive and contributed to the total body burden. Other key assumptions used in calculating doses to potentially exposed individuals include an average body weight of 70 kg, an exposure duration of 40 years, an exposure frequency of 36%, a soil ingestion rate of 0.1 gm/day, an inhalation rate of 79 cubic meters/day, average fugitive dust emissions of 8.1 kg/day, and .00133 micrograms/cubic meter annual average PCB concentration in ambient air. Total additional lifetime carcinogenic risk for the industrial scenario was determined to be 7 in 10,000.

2. Open-Space (Recreational) Exposures

In addition to calculating dose as a result of exposures to surface soils as described above, the open-space (recreational) scenario estimated risk associated with exposure to surface water in the drainage ditch. The assumed exposure frequency for ingestion of ditch waters was 10%. With a ten percent frequency, an exposed individual would ingest 0.8 to 2 liters of water from the drainage ditch, 37 days per year over a lifetime. The resultant lifetime carcinogenic risks for such theoretical upper bound open-space exposures range from 6 in 10 to 4 in 100. The quantity of water available for exposures is low due to intermittent flows. Also, it is highly unlikely that drainage ditch water which is stagnant in appearance and malodorous would be used as a drinking water source. Nonetheless, it is important to emphasize that risks are significant if exposure should occur to drainage ditch waters or sediments.

3. Residential Exposures

In the residential scenario it was assumed that residences could be constructed on the site and individuals (children and adults) would be exposed to PCBs in soils and sediments over a lifetime (75 years). It is assumed that in constructing the homes, surface soils (0 feet to 2.5 feet) are removed exposing the more highly contaminated subsurface soils (2.5 feet to 10.0 feet). Reasonable maximum residential exposures were determined using additional assumptions similar to those used in the industrial scenario with the following notable exceptions: 100% soil ingestion exposure frequency for children under 6 years of age and 42% exposure frequency for children age 6 to 18 years, age-adjusted body weights and exposed body surface areas, inhalation rate of 30 cubic meters/day with an exposure

TABLE 2
Total carcinogenic risk assessment for exposure to PCBs at the Coal Creek Superfund site.

LOCATION	SOIL CONC (ppm)	RESIDENTIAL (RME)	INDUSTRIAL (RME)	RECREATIONAL (theoretical upper bound)
Fill Mound 0'-2.5'	281	3E-03	7E-04	
Fill Mound 2.5'-10'	3100	4E-02	7E-03	
Off Fill Surface	36	4E-04	9E-05	
Off Fill Subsurface	0.5	6E-06	1E-06	
	SEDIMENT CONC (ppm)			
1st Dam	3200	4E-02	7E-03	
2nd Dam	210	3E-03	7E-04	
Below Dams	7	8E-05	2E-05	
Coal Creek	0.11	1E-06	3E-07	
	WATER CONC (ppm)			
Ground Water	0.001	2E-04	7E-05	
Drainage Dit Drainage Dit	23 0.001			6E-01 2E-05

frequency of 100%, soil ingestion rate of 0.2 grams/day for children under 6 years of age, vegetable ingestion rates of 1.79 grams/day for root crops to 4.81 grams/day for garden fruits, PCB uptake factors of .15, .013. and .007 for root crops, leafy vegetables, and garden fruits respectively, and vegetable exposure frequency of 100%. Carcinogenic risks from residential exposures are estimated at 3 in 1000.

Risk Characterization

Excess lifetime cancer risks are determined by multiplying the intake level with the cancer potency factor. These risks are probabilities that are generally expressed in scientific notation (e.g., $1x10^{-6}$ or $1E^{-6}$). An excess lifetime cancer risk of $1x10^{-6}$ indicates that, as a plausible upper bound, an individual has a one in one million chance of developing cancer as a result of site-related exposure to a carcinogen over a 70-year lifetime under the specific exposure conditions at a site.

Potential concern for noncarcinogenic effects of a single contaminant in a single medium is expressed as the hazard quotient (HQ) (or the ratio of the estimated intake derived from the contaminant concentration in a given medium to the contaminant's reference dose). By adding the HQs for all contaminants within a medium or across all media to which a given population may reasonably be exposed, the Hazard Index (HI) can be generated. The HI provides a useful reference point for gauging the potential significance of multiple contaminant exposures within a single medium or across media.

Estimates of carcinogenic risks for the three exposure scenarios considered are presented in Table 2. These risk calculations were prepared by EPA as part of the agency's Official Supplement to the Coal Creek Risk Assessment. These risks are the estimated lifetime incremental upper-bound risks of developing cancer as a result of exposure to PCBs under the assumed conditions. The risks associated with exposure to PCBs via the oral (ingestion) and inhalation routes are given. Total excess risks are shown for each scenario. Total excess risk values are calculated by adding the risks from all exposure routes.

The reasonable maximum estimates of carcinogenic risk from exposure to PCBs at the Coal Creek Site range from 2 in 10,000 (lifetime ingestion of the most contaminated ground waters) to 1 in 1,000,000 (lifetime ingestion of sediment-contaminated waters from Coal Creek). These risks are incremental with respect to background risks for cancer.

TABLE 3
Summary of Coal Creek Hazard Index Calculations - Baseline Conditions

	Land Use Scenario	Average	Reasonable Maximum Exposure
Hazard Index: Ages 0 to 6	Industrial Site Use Open-Space Site Use Residential Site Use	0 0.2 2.3	0.6 2 10.3
Hazard Index: Ages 6 to 18	Industrial Site Use Open-Space Site Use Residential Site Use	0 0.2 1.3	0.2 1.7 7.2
Hazard Index: Ages 18 to 75	Industrial Site Use Open Space Site Use Residential Site Use	0 0.2 1.1	0.3 1.7 6.8

Contact with surface soils is the most likely route of exposure to PCBs at the site. The individual risk of developing cancer from exposure to surface soils (0 feet to 2.5 feet) on-site ranges from 3 in 1000 for residential exposures to 7 in 10,000 for industrial exposures.

Exposure to PCBs in drainage ditch water and sediments and subsurface soils presents the greatest risk (individual cancer risk of 6 in 10 to 4 in 100). Since contaminated water and sediments are confined to a small area, exposure should be limited thus, reducing the risk. While it is highly unlikely that anyone would consume water or sediments from the ditch, it is important to note that the risk from such exposures would be significant should they occur. Since the concentration of PCBs measured in the subsurface soils is high, the risks are proportionally higher. Under current and proposed conditions, exposure to subsurface soils is not expected to occur. However, if the site is excavated, individuals could be exposed to higher concentrations of contaminants which could result in increased risk.

Consumption of ground water using the maximum concentration detected (1 ppb) would result in hypothetical risks ranging from 2 in 10,000 for a residential exposure to 7 in 100,000 for an industrial exposure.

The only contaminant present on-site in concentrations correlating to non-carcinogenic adverse health effects is lead. Under certain exposure assumptions, cadmium, copper, zinc, and TCDD equivalents are calculated to have hazard indices greater than one indicating the potential for non-carcinogenic advers health effects effects. Hazard indices are presented in Table 3.

Ecological Assessment

In addition to the human health risks discussed above, potential ecological risks may also result from site discharges into Coal Creek and from wildlife access onto the site. Potential aquatic life risks associated with site discharges were assessed by comparing measured and predicted water quality data with relevant and appropriate criteria. Relative to the most restrictive aquatic toxicity criteria, existing contributions of site contaminants to Coal Creek are not expected to result in aquatic life toxicity. Following an extreme flood event, inputs of PCBs to Coal Creek may result in worse-case concentrations exceeding the 0.014 ppb chronic aquatic life criterion by three-fold. However, average inputs of PCBs even under this future scenario would not exceed the criterion, and in no case would the 2 ppb acute toxicity criterion be exceeded. Therefore, impacts to aquatic life in Coal Creek from site

discharges are likely to be minor. As noted previously, the water quality in Coal Creek is characterized as poor with low flows, high turbidity, high temperatures, and elevated nitrate levels. No anadromous fish or edible freshwater species are known to inhabit surface waters in the vicinity of the site. The potential impacts of site contaminants on wildlife and domestic animals which may graze in the site vicinity was qualitatively assessed. Based on an evaluation of PCB uptake by cows and potential accumulation in milk, impacts to grazing animals are expected to be minor.

Preliminary natural resource surveys did not identify any endangered species or critical habitats in the site vicinity which had been impacted or would be threatened by site contaminants.

Uncertainty

The accuracy of the risk characterization depends in large part on the accuracy and representativeness of the sampling, exposure, and toxicological data. Most assumptions are intentionally conservative so the risk assessment will be more likely to overestimate risk than to underestimate it.

One source of uncertainty is the lack of adequate metals data and the potential impact on site-related risk. Another related source of uncertainty is the lack of toxicological information on lead potency factors. Lead is the metal of greatest health concern at the site. Its distribution appears to be highly correlated with PCB contamination. Thermally treated soils will be analyzed for lead and other metals to insure that they do not exhibit the characteristics of a Resource Conservation and Recovery Act (RCRA) hazardous waste. Should testing prove lead or other metals to be leachable from the treated soils, the soils will be further treated with solidifying agents to reduce leachability and remove the hazardous waste characteristic.

Another source of uncertainty in the risk assessment is the lack of adequate potency data for PCB exposures via the inhalation and dermal absorption routes. Oral potency values are used for inhalation exposures. Dermal absorption is not included in the calculation of risk estimates even though this route may represent significant potential exposures.

A final source of uncertainty is the assumptions used to arrive at exposure data such as exposure-point concentrations, exposure frequencies, duration of exposure, and consumption/absorption rates. This source of uncertainty can be minimized if the exposure scenarios (e.g. residential, industrial, recreational) can be effectively

controlled through the use of deed restrictions and other institutional controls.

Conclusions

The reasonable maximum exposure to site-related contaminants in surface soils would result in excess lifetime cancer risks in the range of 3 in 1000 to 7 in 10,000.

Actual or threatened releases of hazardous substances from this site, if not addressed by implementing the response action selected in this ROD, may present an imminent and substantial endangerment to public health, welfare, or the environment.

The risk assessment prepared by EPA formed the basis for selection of 1 ppm as the remedial action goal for cleanup of PCB contaminated soils at the Coal Creek site. This level equates to an excess lifetime cancer risk of 1 in 100,000 for persons living on-site under the hypothetical residential scenario.

DESCRIPTION OF ALTERNATIVES

A total of eight alternatives were analyzed in detail for remediating contaminated media at the site. The no-action alternative was also evaluated. The range of alternatives includes two containment-only alternatives, five alternatives employing treatment as a principal element, and an off-site disposal alternative.

Alternative 1 - No Action

The Superfund program requires that the "no-action" alternative be considered at every site in addition to other viable treatment and containment alternatives. Under this alternative, EPA would pursue no further action to control the source(s) of contamination. However, long-term monitoring of the site would be required to assess the potential for contaminant migration. Monitoring would be implemented using the existing network of monitoring wells and points-of-compliance.

Because this alternative would result in contaminants remaining on-site above health-based levels, CERCLA requires that site conditions be reviewed a minimum of every five years. If warranted by the review, remedial actions would be initiated at that time to remove, contain, or treat the waste.

Alternative 2 - Soil Capping with Surface Water Controls and Groundwater Monitoring

This alternative would involve the construction of a multi-layered cap over contaminated fill mound soils. The cap would prevent direct contact with highly contaminated soils, control the generation of fugitive dust, and prevent rainwater from flowing through the soil and carrying contaminants into the wetlands and Coal Creek. Contaminated sediments from the drainage ditch and contaminated soils from subsurface conduits would be excavated and placed on the fill mound prior to capping. Debris resulting from demolition of the on-site building would be contained under the cap if shown to have PCB concentrations less than the Toxic Substances and Control Act (TSCA) regulated limits (50 ppm). Approximately 17,300 cubic yards of soil have detectable concentrations of PCBs above 1 ppm, 11,700 cubic yards above 10 ppm, and 8,300 cubic yards above 50 ppm.

Under the residential scenario, all soils with PCB concentrations greater than 1 ppm would be capped in place. Under the open space scenario, all soils with PCB concentrations greater than 10 ppm would be similarly contained.

Drainage channels would be constructed around the perimeter of the fill mound to control surface water and prevent ground water from rising into the mound in the area of greatest contamination. Additional diking may be required to prevent encroachment of flood waters from a 100-year flood event. Deed restrictions to run with the land would prevent future residential land use and the beneficial use of shallow ground water for drinking purposes. Long-term ground water monitoring would be required.

The present worth cost of this alternative for a 30-year period is approximately $1,300,000. The estimated time required to implement this alternative is approximately six months.

This capping and closure alternative would trigger certain action-specific ARARs including the TSCA Chemical Waste Landfill requirements (40 CFR 761.75) and, for an unquantified portion of the waste, RCRA Hazardous Waste Landfill closure requirements (40 CFR 264.310). These ARARs include requirements for the final cover, ground water monitoring, surface water controls, and leachate controls. This alternative would also involve certain location-specific ARARs pertaining to floodplains and wetlands (40 CFR 268.18(b) and 40 CFR Part 6 Appendix A). Certain State of Washington regulations are potential ARARs including the Dangerous Waste Regulations (WAC 173-303), and the Minimum Functional Standards for Solid Waste Handling (WAC 173-304).

To-Be-Considered (TBC) regulations are the TSCA PCB Spill Cleanup Policy (40 CFR, 761 Subpart G), and the Model Toxics Control Act (WAC 173-340).

Alternative 3 - Soil Capping with Surface Water Controls, Ground Water Monitoring, and Collection and Treatment of Perched Ground Water

This alternative includes the same actions as described for Alternative 2 plus the collection of ground water trapped in the fill mound and treatment at an off-site facility. The perched ground water would be collected in interceptor trenches installed downgradient from the fill area. Ground water would be captured and channeled to holding tanks which would be pumped out regularly and the contents treated off site. The quantity of perched ground water in the fill mound at any given time is largely unknown.

The present worth cost of this alternative is approximately $1,500,000. About six months would be required to complete construction of the remedial actions described above.

The ARARs and TBCs identified for Alternative 2 would also be triggered by this alternative. In addition, Federal Water Quality Criteria (40 CFR Part 131) and State Water Quality Standards (WAC 173-201) would also be potential ARARs for any treated waters destined for discharge to surface waters.

Alternative 4 - On-site Incineration of Soils and Sediments, Capping of Treatment Residuals

Under this alternative, contaminated soils and sediments with 10 ppm or greater PCBs, tank contents, and demolition debris with 50 ppm or greater PCBs would be incinerated on site. Perched ground water would either be incinerated or treated off site depending on the volume encountered during remediation. Ash from the incineration process and untreated soils with low level PCB contamination (1 to 10 ppm PCBs) would be contained on site under a soil cover. Prior to containment, the ash would be tested to determine if it exhibits any characteristics of a RCRA hazardous waste. Testing would include chemical analyses for corrosivity (pH) and leachable metals (TCLP). If the ash exceeds hazardous waste criteria, additional treatment may be required. A trial burn would be required to establish operating parameters and set health-based performance standards. At a minimum, a 99.9999 percent destruction and removal efficiency and a treatment level of 1 ppm would have to be demonstrated.

The present worth cost of this alternative is approximately $6,300,000 to set up and treat an estimated 11,700 cubic yards of contaminated soils. Time required for implementation will depend largely on pretreatment requirements; estimates range from 6 to 15 months.

Potential ARARs which have been identified for the on-site incineration alternative include the RCRA Standards for Hazardous Waste Incinerators (40 CFR, Subpart O), the RCRA Land Disposal Restrictions (40 CFR 268, Subpart D), the TSCA PCB Disposal and Incineration Standards (40 CFR 761.60 and 761.70), the National Ambient Air Quality Standards (40 CFR Subpart 50), Washington Dangerous Waste Regulations (WAC 173-303), and State Air Pollution Control Regulations (WAC 173-400 through 490). The TSCA PCB Spill Cleanup Policy and the proposed Model Toxics Control Act Cleanup Standards are considered TBCs. The State Dangerous Waste Regulations (WAC 173-303) are potential ARARs for all alternatives.

Alternative 5 - On-Site Solvent Extraction of Soils and Sediments, Capping of Treated Soils

In this alternative, soils and sediments with PCB concentrations of 10 ppm or greater would be excavated, washed with an organic solvent (e.g. triethylamine) to remove PCBs, placed back on site, and contained under a soil cap along with soils containing from 1 to 10 ppm PCBs. The waste to be treated includes the perched ground water. This treatment is a physical process which separates PCBs from the soil matrix and concentrates them into a solvent. The solvent would be incinerated off site at a permitted treatment facility. Depending on the final concentration of PCBs in the treated soils, long-term ground water monitoring and deed restrictions may be required. PCB concentrations in the treated soils are predicted to be less than 10 ppm. Both bench-scale and pilot-scale treatability studies would be required. Approximately 11,700 cubic yards of soil would be subject to treatment.

The present worth cost of the solvent extraction alternative is approximately $4,140,000. Time required for implementation ranges from 6 months to 15 months.

All of the requirements identified as potential ARARs/TBCs for Alternative 4 would also be included in the universe of potential requirements for this treatment alternative.

Alternative 6 - On-Site Chemical Dechlorination of Soils and Sediments, Capping of Treated Soils

Under this alternative, contaminated soils and sediments with PCB concentrations of 10 ppm or greater would be excavated, treated with a dechlorination agent to reduce the toxicity of PCBs, placed back on site and contained under a soil cap along with soils containing from 1 to 10 ppm PCBs. Potassium polyethylene glycol (KPEG) is the representative process for dechlorination of PCBs in oils and environmental media. Bulk reagent is decanted from the soil washing apparatus. A small quantity of reagent remains on the soil with some dechlorinated reaction products. The residual reagents and dechlorinated by-products are removed from the soil by water flushing. The water from the last wash is passed through a bed of activated carbon, which preferentially removes the dehalogenated products. The contaminated carbon is thermally treated in a PCB incinerator. Depending on the final concentration of PCBs in the treated soils, long-term ground water monitoring and deed restrictions may be required. It is anticipated that PCB concentrations will be less than 2 ppm. Approximately 11,700 cubic yards of soils would need to be treated.

The present worth cost is estimated to be $7,500,000. Time required for implementation could range from 6 months to 15 months.

Potential ARARs and TBCs are the same as noted for the other alternatives utilizing treatment as a principal element. Disposition of dechlorination solutions at off-site facilities would have to comply with all applicable requirements.

Alternative 7 - Off-Site Disposal of Contaminated Soils and Sediments at a Hazardous Waste Landfill, Capping of Residual Soil Contamination

Under this option, PCB contaminated soils and sediments would be excavated and land disposed at a permitted hazardous waste landfill. There are two such permitted landfills in the Pacific Northwest. The soils would be transported by a licensed hauler and processed as required by the disposal facility. Residual low-level soil contamination (1 to 10 ppm PCBs) would be capped in place. Removal of approximately 18,000 tons of contaminated soil would require about 600 truck/trailer trips from the site. Deed restrictions and long-term monitoring of site conditions are not believed to be warranted under this scenario. PCB concentrations remaining on site would not exceed 10 ppm.

The estimated present worth cost of this alternative is $3,800,000. Three or four months would be required for excavation, containerization, and transportation.

Potential ARARs which have been identified for the off-site disposal alternative include the RCRA Standards for Hazardous Waste Landfills (40 CFR 264, Subpart N), the RCRA Land Disposal Restrictions (40 CFR 268, Subpart D), the TSCA PCB Disposal Standards (40 CFR, 761.60), the TSCA Chemical Waste Landfill Standards (40 CFR, 761.75), and the National Ambient Air Quality Standards (40 CFR Part 50). The TSCA PCB Spill Cleanup Policy is a TBC (40 CFR, Subpart G). The EPA Off-Site Policy is also considered a TBC for this alternative.

Alternative 8 - On-Site Stabilization of Contaminated Soils, Sediments, and Perched Ground Water, Capping of Stabilized Soils and Residual Soil Contamination, Surface Water Controls, and Ground Water Monitoring

In this alternative contaminated soils and sediments with 10 ppm and greater PCBs, and perched ground water confined in the mound of fill material would be excavated and treated with stabilization agents such as lime, fly ash or portland cement to immobilize PCBs and heavy metals. Due to the heterogeneous nature of the fill soils, ash, and debris, bench-scale testing would be required to optimize solidification procedures. After curing, the stabilized soils would be contained on site under a multi-layered cap along with soils containing from 1 to 10 ppm PCBs. Curtain drains and diversion trenches would be constructed around the contained soils to prevent ground and surface waters from coming into contact with the treated soils. Long-term ground water monitoring and deed restrictions would be required.

The present worth cost of the stabilization alternative is estimated at $2,600,000. It is anticipated that delivery, assembly, and start-up of stabilization would take from 2 to 3 months with actual treatment time being 3 to 6 months for approximately 11,700 cubic yards of soils. This estimate does not include time required to conduct the treatability study which may take an additional 6-9 months.

Potential ARARs for this alternative include those identified for both containment (alternatives 2 and 3) and treatment (alternatives 4 thru 9).

Alternative 9 - In-Situ Vitrification of Contaminated Soils, Sediments, and Perched Ground Water, Capping of Treated Soils and Residual Soil Contamination

In-situ vitrification (ISV) is a process in which the contaminated soils and sediments with 10 ppm and greater PCBs would be melted in place into a solidified glass-like mass and left on-site under a soil cover along with soils containing from 1 to 10 ppm PCBs. The PCBs and other organic contaminants would be thermally destroyed by the process and metal contaminants immobilized. Treatment residuals are not expected to contain greater than 1 ppm PCBs. The glass block would be covered with soil of sufficient volume to offset subsidence resulting from treatment. This alternative includes temporary lowering of the water table beneath the fill mound, if necessary, and possible removal of excess metal debris from certain fill mound soils. Long-term ground water monitoring and institutional controls may not be required under this treatment scenario.

Present worth costs for ISV at the Coal Creek Site are estimated to be $6,700,000. Treatment of 11,700 cubic yards of soil would require 9 months to one year including mobilization, assembly, and time for start-up testing.

Potential ARARs for this treatment alternative would be the same as those previously identified for alternatives 4,5,6, and 8 with the exception of the RCRA Land Disposal Restrictions.

General Components and Common Elements

All of the alternatives evaluated in the Feasibility Study include a number of common features. All of the alternatives address remediation of contaminated soils, sediments, and ground water temporarily confined in the fill mound. For all alternatives considered, the soil action level was set at 1 ppm PCB for the residential scenario and 10 ppm for the industrial and recreational (open-use) scenarios. As discussed in the summary of site risks, the excess lifetime cancer risk posed by existing site conditions ranges from a theoretical upper-bound of 6 in 10 for recreational (open-space) exposures to 7 in 10,000 for industrial exposures. The remedial action goals for all alternatives evaluated are that exposures to PCBs in surface soils, sediments and associated waters shall not exceed a cumulative excess lifetime cancer risk of 1 in 100,000.

All of the treatment alternatives would involve some form of treatability testing either trial burns or bench-scale studies. Institutional controls would be required for all alternatives relying on containment as a principal

element or for those treatment alternatives which resulted in treated residuals being left on site above health-based levels.

All alternatives include the removal of friable asbestos-containing material (ACM) from the site building, demolition of site structures, and disposal of both ACM and demolition debris in an approved landfill. Under the thermal destruction alternatives (4 and 9), some demolition debris may be incinerated or vitrified on site.

All alternatives involve the treatment of container liquids and sludges off site with the possible exception of on-site incineration, solvent extraction, and chemical dechlorination.

Alternatives 2,3, and 8 involve the construction of surface water diversion trenches and/or curtain drains to lower the water table.

COMPARATIVE ANALYSIS OF ALTERNATIVES

CERCLA guidance requires that each remedial alternative analyzed in detail in the Feasibility Study be evaluated according to specific criteria. The purpose of this evaluation is to promote consistent identification of the relative advantages and disadvantages of each alternative, thereby guiding selection of remedies offering the most effective and efficient means of achieving site cleanup objectives. There are nine criteria by which feasible remedial alternatives are evaluated. While all nine criteria are important, they are weighted differently in the decision-making process depending on whether they describe a required level of performance (threshold criteria), technical or socioeconomic merits (primary balancing criteria), or overall evaluation by non-EPA reviewers that may influence an EPA decision (modifying criteria).

The nine criteria are:

Threshold Criteria

1. Overall Protection of Human Health and the Environment
2. Compliance with ARARs

Primary Balancing Criteria

3. Long-Term Effectiveness and Permanence
4. Reduction of Toxicity, Mobility, or Volume
5. Short-Term Effectiveness
6. Implementability
7. Cost

Modifying Criteria

8. State Acceptance
9. Community Acceptance

Table 4 provides a summary of the alternative evaluation criteria.

Threshold Criteria

The remedial alternatives were first evaluated relative to the threshold criteria: overall protection of human health and the environment and compliance with ARARs. The threshold criteria must be fully satisfied by candidate alternatives before they can be given further consideration in remedy selection.

1. Overall Protection of Human Health and the Environment

This criteria addresses whether or not remedial actions provide adequate protection and describes the mechanisms for controlling risks for the different exposure pathways.

The treatment alternatives are all considered to be fully protective of public health and the environment given the attainment of health-based performance standards. Of the treatment alternatives considered, on-site incineration is the best-demonstrated technology and the one most likely to attain health-based treatment levels.

Solvent extraction, chemical dechlorination, stabilization, and in-situ vitrification are considered innovative technologies which can be protective given certain site-specific factors and process conditions. Treatability studies would need to be performed to assess the technology's ability to consistently attain health-based standards.

Off-site disposal at a permitted hazardous waste landfill would be fully protective of public health and the environment if soils, as expected, were removed down to health-based levels. CERCLA gives a preference for remedial actions in which treatment permanently and significantly reduces the volume, toxicity, or mobility of hazardous substances. The off-site transport and disposal of contaminated materials without such treatment should be the least favored alternative remedial action where practicable treatment technologies are available.

The containment alternatives without treatment components are not fully protective and do not satisfy this threshold criteria because of the possibility that ground water may rise into portions of the contaminated fill mound or flood waters may inundate these areas carrying contaminants into the wetlands or Coal Creek.

TABLE 4

NINE EVALUATION CRITERIA

EPA has developed nine criteria to be used to evaluate remedial alternatives to ensure all important considerations are factored into remedy selection decisions. These criteria are derived from the statutory requirements of Section 121, particularly the long-term effectiveness and related considerations specified in Section 121(b)(1), as well as other additional technical and policy considerations that have proven to be important for selecting among remedial alternatives.

Threshold Criteria

The two most important criteria are statutory requirements that must be satisfied by any alternative in order for it to be eligible for selection.

1. OVERALL PROTECTION OF HUMAN HEALTH AND THE ENVIRONMENT addresses whether or not a remedy provides adequate protection and describes how risks posed through each exposure pathway (assuming a reasonable maximum exposure) are eliminated, reduced, or controlled through treatment, engineering controls, or institutional controls.

2. COMPLIANCE WITH APPLICABLE OR RELEVANT AND APPROPRIATE REQUIRMENTS (ARARs) addresses whether a remedy will meet all of the applicable or relevant and appropriate requirements of other Federal and State environmental laws or whether a waiver can be justified.

Primary Balancing Criteria

Five primary balancing criteria are used to identify major trade-offs between remedial alternatives. These trade-offs are ultimately balanced to identify the preferred alternative and to select the final remedy.

1. LONG-TERM EFFECTIVENESS AND PERMANENCE refers to the ability of a remedy to maintain reliable protection of human health and the environment over time, one cleanup goals have been met.

2. REDUCTION OF TOXICITY, MOBILITY, OR VOLUME THROUGH TREATMENT is the anticipated performance of the treatment technologies a remedy may employ.

3. SHORT-TERM EFFECTIVENESS addresses the period of time needed to achieve protection and any adverse impacts on human health and the environment that may be posed during the construction and implementation period, until cleanup goals are achieved.

4. IMPLEMENTABILITY is the technical and administrative feasibility of a remedy, including the availability of materials and services needed to implement a particular option.

5. COST includes estimated capital and operation and maintenance costs, and net worth costs.

Modifying Criteria

These criteria may not be considered fully until after the formal public comment period on the Proposed Plan and the RI/FS report is complete, although EPA works with the State and community throughout the project.

1. STATE ACCEPTANCE addresses the support agency's comments. Where the State or other Federal agency is the lead agency, EPA's acceptance of the selected remedy should be addressed under this criterion. State views on compliance with State ARARs are especially important.

2. COMMUNITY ACCEPTANCE refers to the public's general response to the alternatives described in the Proposed Plan and the RI/FS report.

The no-action alternative neither reduces the magnitude of contamination found on site nor the likelihood of exposure to site contaminants and thus is not considered protective of public health or the environment. The current environmental insults would remain unabated.

2. Compliance with ARARs

The purpose of this analysis is to identify all applicable or relevant and appropriate requirements (ARARs) that may be major components of the remedial actions and to evaluate the alternatives for compliance with the ARARs and those criteria to-be-considered (TBCs). Grounds for invoking waivers should be included in this analysis where appropriate.

The Superfund Amendments and Reauthorization Act (SARA) requires that remedial actions satisfy all identified ARARs. These laws may include among others, the Toxic Substances Control Act, the Safe Drinking Water Act, the Clean Water Act, the Clean Air Act, the Resource Conservation and Recovery Act, and state laws such as the Model Toxics Control Act with promulgated standards more stringent than the corresponding federal law.

An "applicable" requirement is one which would legally apply to the response action if that action were not taken pursuant to Sections 104, 106, or 122 of CERCLA. A "relevant and appropriate" requirement is one that is designed to apply to problems sufficiently similar to the one at hand that it's application is appropriate.

On-site incineration and off-site disposal are remedial alternatives which comply with all identified ARARs without reservation. Most importantly, TSCA requires that waste materials with PCBs greater than 50 ppm either be thermally destroyed or disposed in a chemical waste landfill.

In-situ vitrification, solvent extraction and chemical dechlorination alternatives would require a demonstration that the technology can achieve a level of performance equivalent to incineration (2 ppm or less of PCBs in the treated soils) to comply with TSCA requirements.

On-site containment without soils treatment does not comply with TSCA requirements for a chemical waste landfill. Standards for floodplain setbacks, depth to ground water, and leachate collection could not be met. On-site stabilization would also fail to achieve these same performance standards. In both instances, compliance would require a waiver of certain TSCA chemical waste landfill requirements. The no action alternative will not comply with ARARs.

Primary Balancing Criteria

For those alternatives satisfying the threshold criteria, five primary balancing criteria are used to evaluate other aspects of the potential remedies. No one alternative will necessarily receive the highest evaluation for every balancing criterion. This phase of the comparative analysis is useful in refining the relative merits of candidate alternatives for site cleanup. The five primary balancing criteria are: long-term effectiveness and permanence; reduction of toxicity, mobility, or volume through treatment; short-term effectiveness; implementability; and cost.

3. Long-Term Effectiveness and Permanence

This criterion evaluates the ability of a remedial alternative to maintain reliable protection of human health and the environment over time, once cleanup goals have been achieved.

On-site incineration, in-situ vitrification, on-site solvent extraction, on-site chemical dechlorination, and off-site disposal would all achieve a high degree of permanence and long-term effectiveness. Under these alternatives, PCBs would be detoxified or physically removed from the site environs resulting in the attainment of health-based levels of residual risk. Soils containing elevated concentrations of leachable heavy metals above RCRA standards following treatment for PCBs would be stabilized/solidified with fixatives prior to redeposition on site.

Stabilization alone would effectively immobilize inorganic contaminants but may not effectively bind organic contaminants over time. Contaminants would remain on site at elevated levels and would be available for both migration and exposures should failure of the remedy occur.

Containment and containment with treatment of perched ground water would be less effective than other alternatives in maintaining acceptable levels of residual risk. Site disturbances such as construction activity, unauthorized entry, burrowing animals, flooding, etc. could result in the mobilization of contaminants with a concomitant increase in site-associated risk. The no action alternative would not result in acceptable levels of residual risk as judged by the baseline risk assessment.

4. Reduction of Toxicity, Mobility, or Volume through Treatment

This criterion evaluates the anticipated performance of the various treatment technologies and addresses the statutory preference for selecting remedial actions that employ treatment technologies which permanently and significantly reduce toxicity, mobility, or volume of the hazardous substances. This preference is satisfied when treatment is used to reduce the principal threats at a site through destruction of toxic contaminants, irreversible reductions in contaminant mobility, or reductions in the total volume of contaminated media.

On-site incineration, in-situ vitrification, chemical dechlorination, and solvent extraction would irreversibly reduce the toxicity and volume of PCB-contaminated soils. Solidification of thermally treated soils and in-situ vitrification would also reduce the mobility of heavy metal contaminants.

The stabilization alternative would reduce the mobility of lead, copper and other metals but may not effectively immobilize organic contaminants. Additionally, the volume of contaminated soils would be increased by the addition of fixation agents such as lime, kiln dust or portland cement.

Off-site disposal, containment, and the no action alternatives do not employ treatment as a principal component of the remedy; toxicity, mobility, and volume of the contamination remain unchanged.

5. Short-Term Effectiveness

The short-term effectiveness evaluation focuses on the period of time needed to achieve protection of human health and the environment and adverse impacts which may occur during remedial construction and remedial action, until cleanup goals are achieved.

The containment alternatives and in-situ vitrification would be the easiest to implement and would involve the least disturbance and handling of contaminated soils. Because material handling would be minimized, the threat to site workers and nearby populations from fugitive dust emissions would be the least of all alternatives. The time required to implement the containment alternatives ranges from three to nine months. Containment alone without treatment is not considered fully protective of public health and the environment since contaminants would remain in the floodplain and potentially available for transport to ground and surface waters. In-situ vitrification would take an estimated nine months to one year to complete.

All of the remaining treatment alternatives (incineration, solvent extraction, chemical dechlorination, and stabilization) would take from six months to eighteen months to implement and would involve extensive soils handling. All of the these treatment alternatives would potentially incur short-term impacts from volatilization and particulate emissions. These impacts can be minimized through the use of dust suppressants and the scheduling of work during favorable climatic conditions.

6. Implementability

This evaluation addresses the technical and administrative feasibility of implementing the alternatives including the availability of materials and services required to effect the remedy.

There are no implementation requirements for the no action alternative. However, this alternative is not protective and does not satisfy ARARs.

Containment alternatives would be readily implementable. Capping of landfill units is a proven technology utilizing conventional construction equipment. Materials and services would be available locally and the remedial actions could be completed in three to nine months. Certain site conditions--steep banks, adjoining wetlands--may influence both construction techniques and time required to complete construction.

On-site incineration is an established technology and is considered the best demonstrated technology for PCB contaminated soils. Currently, there does not exist sufficient national capacity to employ this technology in all suitable circumstances. Therefore, delays in scheduling a mobile or transportable unit for the Coal Creek Site may be encountered. Also, metal and ceramic debris in site soils may present difficulties in controlling the quality of the feed to the unit resulting in a potential for excessive slagging, volatile metals emissions, and variable destruction and removal efficiencies. Trial burns would be necessary to establish operating parameters and optimize the process environment.

Solvent extraction and chemical dechlorination would be moderately difficult to implement. Equipment and services are available but delays in scheduling would be experienced. In-field modifications of equipment and/or operational procedures are likely to be required prior to start-up. Extensive materials handling will be necessary to pretreat the soils to remove extraneous debris. It may be difficult to reduce the PCB concentrations to the required 2 ppm using these technologies given certain site specific constraints such as unfavorable soil conditions.

Stabilization would also be characterized as a moderately difficult alternative to implement. While the supplies and services are available locally, the choice of fixatives and the optimum formulation would require the conduct of treatability studies. The efficacy of stabilization must be considered suspect when treating soils with high concentrations of organic contaminants, soils of highly variable composition, and soils that are severely challenged by ground or surface waters.

Off-site disposal would be an easy alternative to implement from a purely technical perspective. There are two suitable landfill sites in the Pacific Northwest and licensed haulers are readily available for transport of the waste. Controls would be necessary to minimize fugitive dust emissions during excavation, transport and disposal.

In-situ vitrification ranks as intermediate with respect to implementability. The technology is well-suited to the type of wastes found at Coal Creek and the equipment and expertise are available regionally. Metal debris in the soils to be treated may be excessive for optimal use of the technology. The use of ISV technology during periods of high seasonal ground water would incur additional costs. Electrical power necessary for the operation of this technology may not be available at the site during the winter months.

7. Projected Costs

Present worth costs are used to evaluate and compare the estimated monetary value of each remedial alternative. Present worth consists of the sum of estimated capital costs and estimates of discounted annual operation and maintenance (O&M) costs. Table 5 gives a summary of costs for each of the alternatives as detailed in the Feasibility Study.

The containment alternatives have the lowest capital costs (estimated $600,000-$700,000) but the highest annual O&M costs (estimated $40,000-$50,000) due to the need for long-term ground water monitoring and maintenance of the containment features.

The treatment alternatives in general have higher capital costs (estimated $2,600,00 for stabilization-$7,500,000 for chemical dechlorination) but lower or no O&M costs since contaminants are not expected to remain on site above health-based levels.

Modifying Criteria

The modifying criteria are used in the final analysis of remedial alternatives and are generally considered in altering an otherwise viable alternative rather than deciding between very different alternatives. The two modifying criteria are state and community acceptance.

8. State Acceptance

The Washington State Department of Ecology (Ecology) has been involved with the development and review of the Remedial Investigation, Feasibility Study and Proposed Plan for the Coal Creek Site. Ecology comments resulted in substantive changes to these documents. Comments from Ecology were a fundamental determinant in EPA's decision to recommend an alternative that differed from the one favored by the potentially responsible parties. The state has commented that the Proposed Plan is acceptable given that the site soils are remediated to a clean up level of 1 ppm residual PCBs or a level representing a 1 in 100,000 excess lifetime cancer risk for the residential scenario. Ecology has also stated a desire that ground water elevations be monitored continuously in addition to annual chemical analysis of ground waters. Finally, Ecology is interested in insuring that the required five-year review includes changes in land use patterns and exposure scenarios and that the appropriate regulatory agencies are notified of proposed land use actions as required by notices to deed.

9. Community Acceptance

No written comments were received during the 60 day public comment period on the proposed plan. However, discussion during the public meeting on the Proposed Plan and briefings with public officials revealed uniform support for remedies which not only employed some form of treatment as a principal component but for remedies which were viewed as permanent. Community response to the EPA preferred alternative of incineration/containment has been generally supportive.

Those few individuals who have voiced their concerns have expressed a desire in having the site **cleaned up well**, within a **reasonable time**, and in a **safe manner**. A more detailed accounting of discussion items and EPA responses can be found in the attached Responsiveness Summary.

TABLE 5

COST: The estimated costs for each alternative evaluated in the Feasibility Study are listed below:

Alternative 2 - Containment	
Capital Cost	$600,000
O & M (annual)	$44,800
Present Worth	$1,300,000
Alternative 3 - Containment with treatment of perched ground water	
Capital Cost	$690,000
O & M (annual)	$50,700
Present Worth	$1,500,000
Alternative 4 - Incineration	
Capital Cost	$6,300,000
O & M (annual)	0
Present Worth	$6,300,000
Alternative 5 - Solvent Extraction	
Capital Cost	$4,140,000
O & M (annual)	0
Present Worth	$4,140,000
Alternative 6 - Dechlorination	
Capital Cost	$7,500,000
O & M (annual)	0
Present Worth	$7,500,000
Alternative 7 - Off-Site Disposal	
Capital Cost	$3,800,000
O & M (annual)	0
Present Worth	$3,800,000
Alternative 8 - Stabilization	
Capital Cost	$2,200,000
O & M (annual)	$26,680
Present Worth	$2,600,000
Alternative 9 - Vitrification	
Capital Cost	$6,700,000
O & M (annual)	0
Present Worth	$6,700,000

SELECTED REMEDY

Description

The selected remedy for the Coal Creek Site is a hybrid alternative incorporating elements of Alternatives 3 and 4. The remedy includes the following:

- removing asbestos from the on-site building
- demolition of site structures
- excavation and on-site incineration of soils, sediments and debris
- capping of ash and low-level solids contamination
- on-site incineration or off-site disposal of container liquids and sludges
- on-site incineration or off-site disposal of perched ground water
- diversion trenches to control surface water runon/runoff
- deed restrictions on land and ground water use
- monitoring of ground water
- maintenance of the cap, trenches and perimeter fence

Asbestos Abatement

Prior to demolition or any other disruptive activities, all asbestos-containing material (ACM) from the on-site building shall be removed and disposed of in accordance with applicable federal, state and local requirements. If sampling indicates that ACM (including building dusts and demolition debris) contain hazardous substances regulated under CERCLA, TSCA, or RCRA, the regulated material shall be handled and disposed of in accordance with the governing regulations.

Building Demolition

Once the asbestos abatement procedures described above have been completed, the on-site building and other structures shall be removed in accordance with accepted engineering procedures. Demolition shall be conducted in a manner which minimizes the generation of fugitive dusts. Dust control measures shall be utilized as necessary and as directed by the EPA on-scene coordinator.

Demolition shall include removal of all foundation structures including cement flooring, the oil/water separator and discharge line, the underground oil/gasoline storage tanks, and other containers as directed by the EPA on-scene coordinator.

Empty containers and demolition debris shall be sampled to determine their waste designation. Any surrounding soils showing evidence of contamination (stains, suspect odors) shall also be sampled at the direction of the EPA on-scene coordinator. Containers, debris and associated soils shall be treated or otherwise disposed of in accordance with their waste designation.

Incineration of Soils and Sediments

Soils, sediments and mixed debris in the fill mound with PCB concentrations greater than 50 ppm will be excavated and incinerated on site to thermally destroy all organic contaminants. Mound debris not suitable for incineration will be managed in accordance with its waste designation. Management actions may include decontamination and on-site landfilling or off-site disposal in a permitted hazardous waste landfill. In no instance shall the treatment residuals contain greater than 1 ppm PCBs or greater than 1 ppb total tetrachlorodibenzo(p)dioxin (TCDD) equivalents. These treatment standards correspond to a carcinogenic risk level of 1x10-5 or one in one hundred thousand for the residential scenario. ARARs formed the basis for requiring treatment of solids with 50 ppm and greater PCBs, specifically TSCA standards.

Additional risk assessment will be conducted using emissions data generated during the trial burns. Based on this assessment, treatment goals may need to be modified to protect public health or the environment.

A minimum of 8,300 cubic yards of material will need to be treated to achieve remediation goals. The capital cost of on-site incineration will include a line item for pretreatment costs which cannot be accurately identified at this time. The present worth cost could range from an estimated low of $3.8 million to an estimated high of $7.5 million.

Capping of Ash and Low-Level Soil Contamination

Ash from the incineration process and solids containing from 1 to 50 ppm PCBs or greater than 500 ppm lead will be contained on site under a TSCA-compliant cap and isolated from ground or flood waters. Placement would be above the maximum seasonal ground water table and beyond the 100-year floodplain.

At a minimum, the cap design shall specify a 24" clay cover with a permeability not to exceed 8.5×10^{-7} cm/sec (or it's equivalent) and a 12" soil top layer which has been revegetated and graded to a slope of 3-5% to control runon/runoff of surface waters.

No waste will be contained on-site if analysis indicates that it has PCB concentrations in excess of 50 ppm, TCDD-equivalents in concentrations greater than 1 ppb, or heavy metals greater than Toxic Characteristic Leaching Procedure (TCLP) standards. With reference to TCLP standards, certain thermally treated soils may require additional treatment with stabilizing agents to remove the leaching characteristic prior to redeposition on site.

Containment of treatment residuals and low-level contamination is expected to prevent further contamination of shallow ground water. Ground water emanating from the fill mound after remediation shall not exceed the Maximum Contaminant Level (MCL) for PCBs or lead nor exceed the Secondary Maximum Contaminant Level (SMCL) for copper. Points of compliance shall be the network of three monitoring wells surrounding the fill mound i.e. MW-7, MW-8, and MW-9.

An estimated 9,000 cubic yards of soil will be subject to containment. The capital cost for containment has been estimated between $500,000 and $750,000 with annual O&M costs estimated at $50,000. The present worth cost is estimated to lie between $1,000,000 and $1,500,000.

All soils and sediments with PCB concentrations greater than 1 ppm will be contained on site under an engineered cap. This 1 ppm remediation goal is based on risk calculations and corresponds to a 1 in 100,000 excess lifetime cancer risk for persons exposed under the residential scenario. The 1 ppm remediation level also is compliant with the proposed Model Toxics Control Act cleanup standards.

Incineration of Tank Contents

Contents of the oil/water separator, oil storage tank, gasoline tank, septic tank, wood flume, and other containers shall be incinerated where feasible. Where not feasible, tank contents will be disposed of in accordance with their waste designation.

In no instance shall free liquids be land disposed or otherwise contained on site. Liquids and sludges containing PCBs shall be treated to a standard of 1 ppm. Metals contaminated liquids and sludges shall be treated to remove the hazardous waste TCLP characteristic and satisfy relevant and appropriate treatment standards under RCRA.

The quantity of liquids and sludges in underground tanks has not been determined. The cost to incinerate this material has been factored into the treatment technology costs presented above.

Incineration or Off-Site Disposal of Perched Ground Water

If, as expected, the quantity of water encountered in the fill mound during soils remediation is minimal (i.e. several hundred gallons), then this perched water will be incinerated along with the excavated soils. If the quantity of ground water encountered is significantly greater than these anticipated volumes then it will be collected and treated off site in accordance with applicable requirements.

Surface Water Controls

As part of the final containment structure, diversion trenches will be constructed around the perimeter of the fill mound to control the runon and runoff of surface waters onto the final site cover. Trenches would be constructed with liners or cut to the depth of an impermeable layer, laid with perforated pipe, and backfilled with gravel. These diversion trenches would serve several purposes. First, they would intercept ground waters and prevent their rise into the containment structure; second, they would accept runoff from the fill mound area thereby reducing infiltration; and finally, they would prevent off-site surface waters, including flood waters, from flowing onto the waste containment cell.

These perimeter drains would require routine inspection and maintenance. The estimated cost to perform these services is included in the estimated present worth costs for containment as described above.

The waters to be captured in these drainage channels are not expected to be contaminated with site-related constituents. However, in no instance, shall waters so captured and discharged to Coal Creek contain hazardous substances in concentrations greater than federal Ambient Water Quality Standards (AWQS) or corresponding state standards which may be more stringent. Drainage waters shall be analyzed for contaminants of concern as part of the 5 year review.

Institutional Controls

Institutional controls will be enacted to protect the integrity of the cleanup remedy. Notices to deed will alert interested parties of the contamination contained on-site and restrictions or covenants will prohibit certain activities which could damage the cap, drainage features, perimeter fencing or other elements of the containment system. Restrictions or covenants will also serve to prevent residential use of the site and/or extraction of shallow ground water for drinking water purposes.

Ground Water Monitoring

A ground water monitoring plan for long-term surveillance of the surficial aquifer and evaluation of the performance of the containment system must be submitted for approval as part of the remedial design. At a minimum, the monitoring program shall involve the network of 3 monitoring wells immediately adjacent to the fill mound, the off-site well to the north, and the upgradient well(s). Requirements shall include continuous measurements of ground water elevations and annual chemical analysis for PCBs, chlorobenzenes, lead, copper and other constituents as appropriate. The monitoring program shall be conducted for a minimum period of five years.

Maintenance of Containment Features

An O&M Plan will also be required as part of the remedial design. This plan shall specify the required maintenance activities for the cap, diversion trenches, fence, and other containment features.

Some changes and modifications may be made to the selected remedy as a result of the remedial design and construction processes.

STATUTORY DETERMINATIONS

EPA's primary responsibility under its CERCLA authorities is to insure that remedial actions are protective of human and environmental health. Additionally, Section 121 of CERCLA, as amended by SARA, establishes several other statutory requirements and preferences. These specify that when complete, final remedial actions must comply with applicable or relevant and appropriate environmental standards unless a statutory waiver is justified. The selected remedy must also be cost-effective and utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. Finally, the statute includes a preference for remedies that employ treatment that permanently and significantly reduces the volume, toxicity, or mobility of hazardous substances as a principal element.

The selected remedy for the Coal Creek Site meets the statutory requirements of Section 121 of CERCLA, as amended by SARA, and to the extent practicable, the National Contingency Plan.

Protection of Human Health and the Environment

The selected remedy will protect human health and the environment by employing treatment to eliminate the principal threats associated with PCB contamination, removing contaminants from the 100-year flood plain, and significantly reducing the likelihood of ground or surface waters or nearby populations coming into contact with remaining low-level contamination.

Potential exposures via windblown dusts, dermal contact, and incidental soil ingestion to low-level contamination not subject to treatment will be reduced through the use of physical barriers i.e. caps and fences. The highest concentration of PCBs that will be available for exposures in surface soils will be 1 ppm. For residential exposures, the excess lifetime cancer risk will have been reduced to 1 in 100,000. For industrial or recreational exposures, the corresponding risk will have been reduced to 2 in 1,000,000 (Table 6).

Institutional controls will also be effective in controlling long-term exposures by protecting the cap and ground water monitoring well network and controlling land and ground water uses.

Implementation of the selected remedy will involve extensive excavation of contaminated soils and may result in some potential for air emissions and additional short-term risk. The magnitude of these additional risks, if any, will

be evaluated in greater detail during the remedial design and trial burn. It is expected that dust emissions from material handling and pretreatment can be controlled to acceptable levels through the use of dust suppressants and air pollution control devices (APCD). No adverse cross-media impacts are anticipated.

Compliance with Applicable or Relevant and Appropriate Requirements

The selected remedial actions comply with all applicable or relevant and appropriate requirements (ARARs) that have been identified. No waiver of any ARAR is being sought or invoked for any component of the selected remedy. The laws and regulations of concern include but are not limited to the following:

1. Toxic Substances Control Act (TSCA; 15 U.S.C. 2605); TSCA Chemical Waste Landfill regulations (40 CFR 761.75), TSCA PCB Disposal regulations (40 CFR 761.60); TSCA PCB Incineration regulations (40 CFR 761.70).

   PCB contaminated soils will be treated and contained in a manner compliant with TSCA requirements.

2. Resource Conservation and Recovery Act (RCRA; 42 U.S.C. 6901); RCRA Landfill Closure and Post-Closure Care regulations (40 CFR 264.310); RCRA Incinerator regulations for hazardous waste (40 CFR Subpart O); RCRA Land Disposal Treatment Standards (40 CFR 268, Subpart D); Washington State Dangerous Waste regulations (RCW 70.105 and WAC 173-303).

   Thermally treated soils will be analyzed to determine whether or not they exhibit the TCLP characteristic of a RCRA hazardous waste. If metals concentrations in leachate exceed threshold values, then RCRA ARARS will be triggered and the treatment residuals managed accordingly.

3. Clean Air Act (CAA; 42 U.S.C. 7409, 7601); National Ambient Air Quality Standards (40 CFR Subpart 50); Washington State Air Pollution Control regulations (WAC 173-400 thru 490).

   Concentrations of contaminants in flue gases and stack emissions from the on-site incinerator, and fugitive dust emissions, will be required to meet the requirements of the Clean Air Act and applicable state requirements.

TABLE 6
Remedial action goals for exposure to PCBs in soils.

Soil Concentration = 1 ppm Pathway	Residential (RME)	Industrial (RME)
Soil Ingestion	1E-05	2E-06
Particulate Inhalation	7E-07	3E-07
Vapor Inhalation	2E-08	8E-09
Total Carcinogenic Risk	1E-05	2E-06

Soil Concentration = 10 ppm Pathway	Residential (RME)	Industrial (RME)
Soil Ingestion	1E-04	2E-05
Particulate Inhalation	7E-06	3E-06
Vapor Inhalation	2E-07	8E-08
Total Carcinogenic Risk	1E-04	2E-05

Soil Concentration = 50 ppm Pathway	Residential (RME)	Industrial (RME)
Soil Ingestion	6E-04	1E-04
Particulate Inhalation	4E-05	1E-05
Vapor Inhalation	1E-06	4E-07
Total Carcinogenic Risk	6E-04	1E-04

4. Washington State Minimum Functional Standards (MFS) for Solid Waste Handling (RCW 70.95 and WAC 173-304).

   This is the state statute governing solid waste management. Capping, surface water controls, and ground water monitoring actions will be evaluated to insure consistency with substantive MFS requirements where appropriate.

5. Flood Plain Assessment (40 CFR 264.18(b))(Executive Order 11988); Wetlands Protection (40 CFR Part 6, Appendix A)(Executive Order 11990); Clean Water Act (CWA 33 U.S.C. 1251; Section 404).

   Should any part of the remedial actions involve disturbance of the wetlands environment, an endangerment assessment will be conducted and identifiable impacts will be mitigated. In no instance shall fill material be discharged to the site wetlands following completion of remedial actions.

6. Asbestos Abatement (40 CFR, Part 763, Subpart G)

   All asbestos removal activities shall comply with applicable federal and more stringent state requirements for emissions limits and occupational safety and health standards.

7. Underground Storage Tank regulations (40 CFR Part 280).

   Remedial actions involving the removal of underground storage tanks shall comply with all applicable federal and more stringent state requirements including but not limited to waste characterization and disposal.

8. Off-Site Regulations

   Any actions which may occur off site will comply with all applicable laws and regulations. Such actions may involve the off-site disposal of hazardous substances or hazardous waste and the discharge of wastewaters (i.e. scrubber waters) to Coal Creek. In the latter case, these discharges will be subject to National Pollutant Discharge Elimination System (NPDES) effluent limitations (40 CFR 122; NPDES Permit Program requirements (WAC 173-220); and Washington State Water Pollution Control Act (RCW 90-48) requirements.

9. To-Be-Considered Requirements

   In implementing the selected remedy, EPA will be considering policy and procedures that are not legally

binding. These include but are not necessarily limited to the TSCA PCB Spill Cleanup Policy and the Draft Guidance on Selecting Remedies at Superfund Sites with PCB Contamination, and proposed MTCA cleanup regulations.

The PCB Spill Cleanup Policy gives guidance on recommended cleanup levels under certain access scenarios. The Draft Superfund PCB Guidance recommends cap designs which are consistent with RCRA guidance. It also specifies long-term management controls which are tied to PCB concentration levels and other site specific considerations such as depth to ground water, access restrictions, location within a flood plain, permeability of native soils, etc.

MTCA is the state of Washington's operative hazardous waste site cleanup law. Regulations governing cleanup standards under this law have been proposed and are pending promulgation. Cleanup goals at the Coal Creek Site are consistent with proposed standards.

Cost-Effectiveness

The cost-effectiveness of each remedial alternative was evaluated. The selected remedy is cost-effective as it affords overall effectiveness and protectiveness proportional to its costs. Other remedial alternatives including other innovative treatment technologies and on-site containment are less costly than on-site incineration/containment but their decreased effectiveness does not render them fully protective of human health and the environment.

Utilization of Permanent Solutions and Alternative Treatment Technologies to the Maximum Extent Practicable (MEP)

EPA has determined that the selected remedy represents the maximum extent to which permanent solutions and alternative treatment technologies can be utilized in a cost-effective manner for the Coal Creek Site. Of those alternatives that are fully protective of human and environmental health and comply with ARARs, EPA has determined that the selected remedy provides the best balance of tradeoffs with respect to long-term effectiveness and permanence, reduction of toxicity, mobility, or volume achieved through treatment, short-term effectiveness, implementability, and cost. Additional considerations included the statutory preference for treatment as a principal element and acceptability to the State and the potentially affected community.

Although on-site incineration, in-situ vitrification, and off-site disposal are fully protective and comply with ARARs, there are significant differences in the use of treatment to reduce toxicity, mobility, or volume, the short-term effectiveness, and implementability. On-site incineration and ISV utilize treatment to reduce the toxicity of PCBs in on-site soils. On-site incineration combined with containment of residuals and low-level soil contamination not only uses treatment to address the principal threats through detoxification but also reduces the potential for migration of contaminants remaining on site. Off-site disposal does not employ a treatment component and, as such, is considered the least favored remedial action where practicable treatment technologies are available.

Both ISV and incineration/containment will result in the significant and permanent reduction of site-related risks. The remaining carcinogenic risks as calculated are not expected to exceed a magnitude of 1 in 100,000 for either of these remedial alternatives. Engineering and institutional controls for both of these alternatives are expected to provide for safe and effective containment of residuals and remaining low-level contamination.

Between ISV and incineration/containment, ISV has the lowest short-term risk because it would not involve the excavation of contaminated soils and the associated potential for fugitive dust emissions. The incineration/containment alternative would minimize short-term risk by employing dust suppressants and containing low-level soil contamination. Both alternatives would involve pretreatment aspects and take on the order of nine to fifteen months to implement.

Both on-site incineration/containment and ISV can be implemented with moderate degrees of difficulty. Incineration will require extensive materials handling to control the quality of the feed. The possibility of elevated metals in the feed may further constrain the technology. These factors are somewhat offset by the fact that large volumes of soil with low-level PCB contamination will be contained on site thereby improving implementability. ISV may require dewatering of the fill mound prior to treatment to avoid severe economic penalties. Metal debris in portions of the fill mound may need to be removed to allow the melt to proceed in a controlled manner.

The decision to contain low-level soil contamination as part of the incineration/containment alternative renders this the most cost-effective alternative when compared with ISV.

The major tradeoffs that provide the basis for this remedy selection decision are the statutory preference for treatment as a principal element, short-term effectiveness, implementability, and cost. The selected remedy is more reliable, more cost-effective, and can be implemented with no greater difficulty or short-term impacts than the other treatment alternatives and therefore is considered to be the most appropriate solution to contamination at the site and represents the maximum extent to which permanent solutions and treatment are practicable.

The State of Washington has concurred with the selected remedy. Components of the selected remedy have been fashioned to address concerns and incorporate recommendations from the State.

The Proposed Plan for the Coal Creek Site was released for public comment on May 7, 1990. The Plan identified incineration/containment as the preferred alternative for site cleanup. No written comments were received during the public comment period. No significant changes to the remedy as identified in the Proposed Plan are necessary.

Preference for Treatment as a Principal Element.

By incinerating soils with PCB concentrations greater than 50 ppm to thermally destroy organic contaminants, the selected remedy addresses the principal threats posed by the site through the use of treatment technologies. Therefore, the statutory preference for remedies that employ treatment as a principal element is satisfied.

Land Disposal Restrictions

The selected remedy is not anticipated to involve the placement of RCRA hazardous wastes on-site. This being the case, the Land Disposal Restrictions would not apply.

APPENDICES

RECORD OF DECISION
COAL CREEK SUPERFUND SITE
CHEHALIS, WASHINGTON

Appendix A: Responsiveness Summary

Appendix B: Administrative Record Index

COAL CREEK SITE RESPONSIVENESS SUMMARY

I. Overview

The purpose of this document is to summarize and respond to comments made during a public comment period held by EPA from May 7 through July 6, 1990, concerning EPA's proposed cleanup plan for the Coal Creek site. The cleanup plan was proposed based on information collected during a Remedial Investigation and Feasibility Study (RI/FS) conducted on the site. The purpose of an RI/FS is to conduct a thorough study of the site and to assess possible plans to clean up the site. The RI/FS and proposed plan were available for review in the local library and copies of the proposed plan were mailed to a list of local citizens developed as part of the Community Relations Plan.

EPA held a public meeting the evening of June 6, 1990, at the Lewis County Courthouse Annex in Chehalis to present the results of the RI/FS and to outline EPA's proposed cleanup plan. The meeting was attended by seven people which included three representatives of the site owners or other responsible parties and a reporter from the local newspaper. Although a number of questions were asked by the attendees at the public meeting, the questions were aimed at getting a better understanding of the site problems and of the alternatives considered to address these problems. No one expressed opposition or support for EPA's proposed plan.

In a phone conversation during the public comment period a representative of the Sierra Club expressed some concern over possible health effects from incinerator emissions on neighbors of the site.

Representatives of the state Department of Ecology have reviewed the EPA proposed plan and have expressed support for the EPA proposed remedy.

II. Background on Community Involvement

The site is located in a rural farm area on the outskirts of the City of Chehalis. There are approximately 15 homes located within 1/2 mile of the site. Several companies involved in transformer repair and salvage activities operated on site from 1949 to 1983. In general people living near the site are long time residents who are familiar with the history of the site and its contamination with PCBs.

In preparation for development of a community relations plan, EPA met with area residents and officials to hear their concerns about the site. The Community Relations Plan was published in March of 1988. As a result of these meetings the following list of community concerns was developed prior to the start of the RI/FS. Following these concerns is a brief description of how EPA responded to them:

1. The extent of contamination is unknown.

   A comprehensive characterization of the site was completed during the RI/FS. Prior to the start of the RI/FS, 173 samples taken from soils and liquids at the site were analyzed for PCBs and other hazardous substances. In order to complete characterization of the site an additional 51 samples, including groundwater from five new groundwater monitoring wells, were collected during the RI/FS. EPA now has a good understanding of the extent of contamination.

2. Are children playing on contaminated soil off site?

   No. The RI/FS found no evidence of contamination leaving from the site.

3. Is Coal Creek contaminated?

   The RI/FS did not find any detectable levels of PCBs in Coal Creek. However in 1983 EPA found low levels of PCBs in the sediment of Coal Creek adjacent to the site. In addition, in 1984 the Department of Ecology found a very low level of PCBs in water from Coal Creek just down stream of the site. These samples were taken prior to covering the site with black plastic and the installation of two small dams in the drainage ditch leading from the site into Coal Creek. These activities have helped to keep contamination from spreading off site.

4. Is there potential for domestic well contamination?

   No. A well survey, conducted as part of the RI/FS, confirmed that the nearest well was 1/2 mile upgradient to the site. Groundwater samples taken during the RI/FS showed detectable levels of PCBs in only two out of the 12 monitoring wells installed on site. These two wells are located adjacent to the highly contaminated fill mound and represent groundwater just below the ground surface.

EPA believes any groundwater contamination is confined to the area of and adjacent to the fill mound. Although it appears that all groundwater under the site will be gradually restored to meet drinking water standards, no domestic wells will ever be allowed to be installed on the site as a precautionary measure. There is no reason to believe that any existing off-site well could become contaminated from this site.

5. Is there potential for air contamination?

Yes. There is a potential for contamination to migrate off site into the air. This could occur through wind blown dusts and soils or through gases given off by volatile chemicals. The fill mound is covered with black plastic which greatly reduces the potential for air contamination. EPA does not believe that neighbors of the site are subject to adverse health effects from air contamination under current site conditions. The selected cleanup remedy will eliminate any potential long term health threats from exposure to airborne contaminants.

Hazardous substances could enter the air and leave the site during incineration of contaminated soils and debris on site. However, EPA will develop a risk assessment to evaluate potential risks to public health and the environment from the incineration process. The incinerator will be tested on site prior to starting up the incineration project. Data gathered during the test will be used in the risk assessment. This will help assure that neighbors of the site are not subject to adverse health effects during clean up of the site.

6. Are there potential health effects resulting from existing contamination?

Based on the findings of the RI/FS, neighbors of the site are not at risk of experiencing adverse health effects due to current site conditions. EPA is concerned about people coming into contact with the contamination at the site. Therefore under current site conditions it is important that residents do not gain access to the site by climbing over the protective fence surrounding the site.

There is the potential that the situation could worsen - ie - deterioration of the black plastic, flooding, etc. - and can spread contamination beyond the site and become a threat to public health or the environment. Therefore it is important to clean up the site as rapidly as possible.

7. Have site conditions resulted in fewer real estate transactions or a decrease in property values in the area?

   No assessment was done of the site's effect on real estate values in the area as this is beyond the scope of EPA's responsibilities. However, the RI/FS found no evidence of contamination outside the site boundaries.

III. Summary of Public Comments and Lead Agency Response

Comments and questions raised during the public comment period on the proposed plan are summarized below. Most of the questions were raised at the public meeting which was held on June 6, 1990, at the Lewis County Courthouse Annex in Chehalis. At this meeting, which was attended by seven people, representatives from EPA provided information on the history of the site and the RI/FS including the risk assessment and a summary of the EPA proposed plan. A question and answer period followed the EPA presentations. Questions included the timing of the proposed remedial action, health risks to neighbors of the site during the remediation, extent of groundwater contamination, effects of flooding from Coal Creek, type of incineration proposed, and the effect of incineration on heavy metals found in the contaminated soils.

The public meeting was transcribed and copies of the transcription are available for review at the Chehalis-Timberland Public Library in Chehalis.

Several comments and questions were also raised in a phone conversation between EPA and a representative of the Sierra Club during the comment period.

The following is a summary of the questions posed to EPA during the public comment period and EPA's answers to those questions:

1. One citizen asked whether the proposed plan would eliminate flooding of the contaminated area from 100-year flood events from Coal Creek.

Response: Yes. The proposed plan would eliminate Coal Creek flood waters from coming into contact with any soils above the clean up standard and/or with the ash from the incinerator.

2. One citizen asked about the extent of groundwater contamination and how the proposed plan would respond to this contamination.

Response: There is contaminated water trapped within the fill mound. This water will be collected and treated during cleanup. Also, there is some low level contamination in the near-surface groundwater under and just adjacent to the fill mound. The selected remedy does not include collection or treatment of this water. EPA believes that eliminating the source of contamination within the fill mound will cause the contaminants in the groundwater to be gradually reduced to below levels of concern. This groundwater will be monitored for at least five years after the cleanup is completed to assure that the levels will be reduced. No contamination has been found in the deeper monitoring wells.

3. One citizen asked when the site clean up will begin and when it will end.

Response: EPA intends to initiate clean up in the spring of 1991 and complete the clean up by the end of 1991. However, this schedule depends on the time it takes to negotiate a consent decree with the owners of the site and other parties responsible for conducting the cleanup and the time it takes to complete design studies needed to begin actual cleanup.

4. One person asked whether there will be any health risks to neighbors of the site during incineration.

Response: There will be some small risk. In order to insure that the incinerator can be operated safety, EPA intends to conduct a trial burn prior to full scale operation of the incinerator. Air emissions from the incinerator will be collected during the trial burn. Based on the air emissions during the trial burn, a risk assessment will be developed to determine whether there will be any unacceptable risk to neighbors of the site. EPA will not allow the full scale operation of the incinerator if the risk assessment shows any unacceptable risks to neighbors.

5. One person asked how the incineration process will take care of the heavy metal contamination found in soils on site.

   Response: The incineration process cannot destroy the metals. Most of the metals will be contained in the ash from the incinerator. This ash will be deposited in an on-site fill that will be developed above the seasonal high groundwater table and beyond the reach of flood waters from Coal Creek. The fill will be covered with a cap engineered to prevent rainfall from seeping through to the ash. Although most of the emissions from the incinerator will be captured by air pollution control devices, some of the metals will be released in the emissions from the incineration stack. However, EPA will conduct the appropriate studies and tests to insure that the emissions will not cause any unacceptable risks to neighbors.

6. One person asker whether any soil will be transported off the site under the preferred alternative.

   Response: No. All contaminated soils will be incinerated and/or contained in an on-site landfill.

7. One person asked what type of incinerator will be used under the EPA proposed plan.

   Response: The choice of incinerator has not yet been made. This decision will be made during the design phase of the project.

8. One person asked whether dioxins were found at the site.

   Response: Yes. Low concentrations of dioxins were found in a few soil and ash samples taken from the site. However the concentrations were well below the 1 part per billion action level for dioxins developed by the Federal Center for Disease Control for residential soils at the Times Beach Superfund site in Missouri.

9. One person expressed the concern that improper incineration of the PCB contaminated materials may create more dioxins.

Response: Yes, it is possible that burning of PCB contaminated material can cause the creation of dioxins which would then be either contained in the ash from the incineration process or be released in the emissions from the incineration stack. However, the creation of dioxins can be controlled by adjusting certain operating parameters - ie - operating temperature, burn time, etc. Prior to putting the incinerator in full-scale operations a trial burn will be conducted to determine proper operating parameters for the incinerator.

EPA will require that the ash from the incinerator contain no more than the 1 part billion action level for dioxins discussed in Response #8. In addition EPA will conduct a risk assessment based on results of the trial burn to insure that the emissions from the incinerator will not cause any unacceptable health risks to neighbors of the site.

10. One person expressed the concern that current rules for operating incinerators may be inadequate. This person expressed particular concern that the Federal Office of Management and Budget is holding up EPA proposed standards for incinerators under the Resource Conservation and Recovery Act (RCRA).

Response: The incineration project at the Coal Creek site is not dependent on promulgation of new incineration standards under RCRA in order to adequately protect human health and the environment.

The contaminated soils at Coal Creek are not considered to be a hazardous waste under RCRA and therefore it is not mandatory that they be treated and disposed of according to RCRA rules. The Toxic Substances Control Act (TSCA) regulates the treatment and disposal of wastes containing greater than 50 parts per million of PCBs. As the soils that will be incinerated at Coal Creek have concentrations of PCBs greater than 50 parts per million, the standards for incineration are set by TSCA. These standards are believed to be fully protective of human health and the environment concerning PCBs.

However, the soils on site also contain elevated levels of heavy metals. In order to assure that the soil incineration process is designed and operated to be fully protective of human health and the environment EPA will require the incinerator be designed and operated in accordance with relevant portions of the proposed RCRA incinerator rules (ie - those concerning metals emissions) in addition to the standards set by TSCA. EPA plans to promulgate final RCRA standards by the time the Coal Creek incineration is actually accomplished; however, the standards do not have to be promulgated in order for them to be used at the Coal Creek site.

COMMUNITY RELATIONS ACTIVITIES AT
THE COAL CREEK SUPERFUND SITE
(excerpted from the Decision Summary of the Record of Decision)

The community relations activities conducted at the Coal Creek Site to date have included the following:

- 1982-1983: EPA representatives attended several meetings in Lewis County to discuss PCB issues in general and siting concerns with the Ross Electric Logan Hill Facility in particular.

- February-March 1988: EPA met with members of the local community to discuss their concerns about the site as the first step in development of a Community Relations Plan.

- February-March: EPA developed a mailing list including all property owners and/or tenants within a mile of the site.

- March 1988: the Community Relations Plan was published and distributed to information repositories. The administrative record was placed in the Chehalis-Timberland Public Library.

- April 1988: EPA prepared and distributed a fact sheet to persons on the mailing list. The fact sheet explained the Consent Order which was signed between EPA and the potentially responsible parties and described remedial investigation field activities.

- December 1988: EPA issued a fact sheet describing the significant findings of the remedial investigation and the future opportunities for public involvement.

- May 1990: Update of Administrative Record placed in Chehalis Library.

- May 3, 1990: EPA met with public officials in Chehalis to update them on site activities and brief them on the Proposed Plan.

- May 7, 1990: EPA distributes copies of the Proposed Plan to parties on the mailing list. The fact sheet outlined the RI/FS results and explained EPA's recommended alternative for site cleanup. The fact sheet also announced a public meeting to be held on June 6, 1990 and the dates of the public comment

period. A public notice describing the proposed plan and public meeting was placed in the Daily Chronicle.

- May 7 to July 6, 1990: Public comment period on the Proposed Plan.

- June 4, 1990: A second notice for the public meeting on June 6 was placed in the Daily Chronicle.

- June 6, 1990: EPA held a public meeting to explain the findings of the RI, to discuss the evaluation of feasible remedial alternatives, and present the EPA Proposed Plan. A response to those comments is found in the Responsiveness Summary, which is part of this Record of Decision. A transcript of the meeting was prepared and is available in the Administrative Record and the information repository.

APPENDIX B

Administrative Record Index

for

Coal Creek Superfund Site

Chehalis, Washington

September 12, 1990

COAL CREEK ADMINISTRATIVE RECORD INDEX

HEADING: 1. 0. . SITE IDENTIFICATION

SUB-HEAD: 1. 1. . Correspondence

1. 1. . - 0001 DATE: 12/06/79 PAGES: 2
AUTHOR: Robert Poss/Environmental Protection Agency (EPA)
ADDRESSEE: Gary Ross/Ross Electric
DESCRIPTION: Letter of Advisement

1. 1. . - 0002 DATE: 01/11/80 PAGES: 2
AUTHOR: Jim Oberlander/Washington Department of Ecology (DOE)
ADDRESSEE: File/DOE
DESCRIPTION: Letter regarding inspection and findings at the Coal Creek site

1. 1. . - 0003 DATE: 02/22/80 PAGES: 2
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: Gary Ross/Ross Electric
DESCRIPTION: Letter regarding receipt of the analysis report on samples taken at Coal Creek site and the necessity to test incoming units for PCB levels

1. 1. . - 0004 DATE: 05/06/80 PAGES: 1
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: File/DOE
DESCRIPTION: Letter regarding outcome of meeting in which the proper handling of PCB's was discussed

1. 1. . - 0005 DATE: 10/09/80 PAGES: 1
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: Ed Dec/Pacific Sand and Gravel
DESCRIPTION: Letter regarding sampling of asphalt plant scrubber water discharge

1. 1. . - 0006 DATE: 06/17/82 PAGES: 1
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: Gary Ross/Ross Electric
DESCRIPTION: Summary of discussion of inspection

1. 1. . - 0007 DATE: 10/19/82 PAGES: 1
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: Gary Ross/Ross Electric
DESCRIPTION: Request to analyze split samples and save remaining samples

1. 1. . - 0008 DATE: 01/14/83 PAGES: 3
AUTHOR: Gary Ross/Ross Electric
ADDRESSEE: Jim Oberlander/DOE
DESCRIPTION: Letter regarding follow-up to request for a plan

1. 1. . - 0009 DATE: 02/02/83 PAGES: 2
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: Gail Keyes/DOE
DESCRIPTION: Request for enforcement action

COAL CREEK ADMINISTRATIVE RECORD INDEX

1. 1. . - 0010 DATE: 02/23/83 PAGES: 1
AUTHOR: Gail Keyes/DOE
ADDRESSEE: Ron Raff/Lewis County PUD
DESCRIPTION: Suggestion that all correspondence related to the Docket (DE 83-143) be directed to enforcement officer

1. 1. . - 0011 DATE: 03/25/83 PAGES: 1
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: Ron Raff/Lewis County PUD
DESCRIPTION: Results of laboratory data indicating that levels of PCB are a very serious problem

1. 1. . - 0012 DATE: 05/31/83 PAGES: 1
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: John McKerricher, Attorney/Baker, Paroutand, Mano & McKerricher
DESCRIPTION: Letter requesting notification of the new location of Ross Electric plant

1. 1. . - 0014 DATE: 05/18/83 PAGES: 1
AUTHOR: John McKerricher, Attorney/Baker, Paroutaud, Mano & McKerricher
ADDRESSEE: Jim Oberlander/DOE
DESCRIPTION: Letter regarding the termination of operations by Ross Electric on their Coal Creek site within the next 2 or 3 months

1. 1. . - 0015 DATE: 07/25/83 PAGES: 2
AUTHOR: /Ross Electric
ADDRESSEE: /
DESCRIPTION: Brief site history and schematic drawing of gravity oil/water separator

1. 1. . - 0016 DATE: 07/27/83 PAGES: 1
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: Ron Raff/Lewis County PUD
DESCRIPTION: Comments of Ross Electric investigation plan

1. 1. . - 0017 DATE: 08/10/83 PAGES: 3
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: Tom Ross/Ross Electric
DESCRIPTION: Review of a design plan for the new plant on Bucoda Highway

1. 1. . - 0018 DATE: 08/31/83 PAGES: 1
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: Ron Raff/Lewis County PUD
DESCRIPTION: Letter defining Docket (83-143) and urging compliance

1. 1. . - 0019 DATE: 09/15/83 PAGES: 1
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: Tom Ross/Ross Electric
DESCRIPTION: Request for written documentation on waste oil holding tank

1. 1. . - 0020 DATE: 10/14/83 PAGES: 1
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: Gary Ross/Ross Electric
DESCRIPTION: Discussion of safe handling of petroleum and chemicals over an open/shallow aquifer

COAL CREEK ADMINISTRATIVE RECORD INDEX

1. 1. . - 0021 DATE: 10/25/83 PAGES: 2
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: Gary Ross/Ross Electric
DESCRIPTION: Letter regarding meetings with residents near Ross Electric, Logan Hill site

1. 1. . - 0022 DATE: 11/22/83 PAGES: 2
AUTHOR: John McKerricher, Attorney/Baker, Paroutaud, Mano & McKerricher
ADDRESSEE: Jim Oberlander/DOE
DESCRIPTION: Letter regarding decisions concerning the future of Ross Electric

SUB-HEAD: 1. 2. . Background

1. 2. . - 0001 DATE: 11/01/84 PAGES: 2
AUTHOR: Neil Thompson/EPA
ADDRESSEE: /
DESCRIPTION: Report including site history, description of the problem at the site and summary of activities

1. 2. . - 0002 DATE: 12/29/83 PAGES: 14
AUTHOR: W. Douglas Smith/EPA
ADDRESSEE: /Ross Electric
DESCRIPTION: PCB inspection report of Ross Electric

SUB-HEAD: 1. 3. . Notification/Site Inspection Reports

1. 3. . - 0001 DATE: 06/07/82 PAGES: 4
AUTHOR: W. Douglas Smith/EPA
ADDRESSEE: /
DESCRIPTION: Transcription of field recorder notes

1. 3. . - 0002 DATE: 03/11/83 PAGES: 4
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: /
DESCRIPTION: Inspection report and photos

1. 3. . - 0003 DATE: 07/20/83 PAGES: 10
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: /
DESCRIPTION: Inspection report documenting satisfactory operating conditions

SUB-HEAD: 1. 4. . Preliminary Assessment (PA) Report

1. 4. . - 0001 DATE: 10/24/85 PAGES: 11
AUTHOR: Bob Kievet/EPA
ADDRESSEE: /
DESCRIPTION: Potentially Hazardous Waste Site, Preliminary Site Assessment

SUB-HEAD: 1. 5. . Sampling and Analysis Data

1. 5. . - 0001 DATE: 05/17/79 PAGES: 5
AUTHOR: R.H. Reich/EPA
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Report of analysis: establishment, inspection report, collection report, and history of official sample

COAL CREEK ADMINISTRATIVE RECORD INDEX

1. 5. . - 0002 DATE: 01/08/80 PAGES: 1
AUTHOR: R.H. Reich/EPA
ADDRESSEE: /
DESCRIPTION: Report of analysis

1. 5. . - 0003 DATE: 06/07/82 PAGES: 4
AUTHOR: R. H. Reich/EPA
ADDRESSEE: /
DESCRIPTION: Report of analysis: TSCA notice of inspection, TSCA confidentiality notice, receipt for samples

1. 5. . - 0004 DATE: 06/08/82 PAGES: 2
AUTHOR: W. Douglas Smith/EPA
ADDRESSEE: R.H. Reich/EPA
DESCRIPTION: Chain of custody record

1. 5. . - 0005 DATE: 06/28/82 PAGES: 2
AUTHOR: Donald A. Donaldson/EPA
ADDRESSEE: Gerald Ross/Ross Electric
DESCRIPTION: Lab analysis notice, report of analysis

1. 5. . - 0006 DATE: 10/20/82 PAGES: 1
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: /
DESCRIPTION: Field sample data sheet

1. 5. . - 0007 DATE: 09/21/82 PAGES: 10
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: File/DOE
DESCRIPTION: DOE PCB sample analyses at Ross Electric

1. 5. . - 0008 DATE: 04/04/83 PAGES: 6
AUTHOR: Don Donaldson/EPA
ADDRESSEE: Gerald Ross/Ross Electric
DESCRIPTION: Laboratory analysis notice

1. 5. . - 0009 DATE: 04/23/83 PAGES: 7
AUTHOR: Don Donaldson/EPA
ADDRESSEE: Gerald Ross/Ross Electric
DESCRIPTION: Laboratory analysis notice, including part of PCB inspection

HEADING: 2. 0. . LEWIS COUNTY PUBLIC UTILITIES DEPARTMENT (PUD) REMOVAL RESPONSE

SUB-HEAD: 2. 1. . Correspondence

2. 1. . - 0001 DATE: 10/05/83 PAGES: 1
AUTHOR: Donald Donaldson/EPA
ADDRESSEE: Gary Kalich/Lewis County PUD
DESCRIPTION: Letter expressing concern for correcting and resolving environmental problems at the site

2. 1. . - 0002 DATE: 10/25/83 PAGES: 1
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: Ron Raff/Lewis County PUD
DESCRIPTION: Acceptance of Ch2M Hill report and additional comments and concerns

2. 1. . - 0003 DATE: 11/15/83 PAGES: 1
AUTHOR: Ron Raff/Lewis County PUD
ADDRESSEE: Donald Donaldson/EPA
DESCRIPTION: EPA agreement that there has been insufficiant monitoring to determine no groundwater contamination - additional monitoring suggested

2. 1. . - 0004 DATE: 04/27/84 PAGES: 1
AUTHOR: Ron Raff/Lewis County PUD
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Acknowledgment of shipment of closure plan and expectations of meeting to review the statement document

2. 1. . - 0005 DATE: 05/10/84 PAGES: 1
AUTHOR: Jack E. Sceva/EPA
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Memo regarding the review of Conceptual Design of Closure Plan

2. 1. . - 0006 DATE: 05/18/84 PAGES: 3
AUTHOR: Roderick A. Carr/SCS Engineers
ADDRESSEE: /Ross Electric
DESCRIPTION: Review of Conceptual Design of Closure Plan for Coal Creek site, April 27, 1984, prepared by Ch2M Hill

2. 1. . - 0007 DATE: 05/24/84 PAGES: 2
AUTHOR: Neil Thompson/EPA
ADDRESSEE: Ron Raff/Lewis County PUD
DESCRIPTION: Review and comments on "Conceptual Design of Closure Plan"

2. 1. . - 0008 DATE: 06/07/84 PAGES: 2
AUTHOR: Ron Raff/Lewis County PUD
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Confirmation of PUD's commitment to cooperate with EPA and DOE in meeting the 1985 deadline for PCB containment

2. 1. . - 0009 DATE: 06/13/84 PAGES: 1
AUTHOR: David Jansen/DOE
ADDRESSEE: Ron Raff/Lewis County PUD
DESCRIPTION: DOE insistance that the site remain covered during interim period

COAL CREEK ADMINISTRATIVE RECORD INDEX

2. 1. . - 0010 DATE: 06/18/84 PAGES: 2
AUTHOR: Neil Thompson/EPA
ADDRESSEE: Ron Raff/Lewis County PUD
DESCRIPTION: Restatement of the need for more data in order to implement an acceptable closure plan

2. 1. . - 0011 DATE: 07/02/84 PAGES: 2
AUTHOR: Ron Raff/Lewis County PUD
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Request that considerations be made to fill the data gaps for the completion of the closure plan

2. 1. . - 0012 DATE: 09/14/84 PAGES: 1
AUTHOR: Neil Thompson/EPA
ADDRESSEE: Ron Raff/Lewis County PUD
DESCRIPTION: Notification that EPA has completed internal review of sampling plan

2. 1. . - 0013 DATE: 10/02/84 PAGES: 1
AUTHOR: C. Jonathan Neel/DOE
ADDRESSEE: Ron Raff/Lewis County PUD
DESCRIPTION: Letter regarding the submission of the scope of work (missing page 2)

2. 1. . - 0014 DATE: 10/12/84 PAGES: 1
AUTHOR: Ron Raff/Lewis County PUD
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Letter regarding the need to coordinate among the agencies to avoid mistakes or misunderstandings

2. 1. . - 0015 DATE: 01/25/85 PAGES: 1
AUTHOR: Neil Thompson/EPA
ADDRESSEE: Gary Kalich/Lewis County PUD
DESCRIPTION: Notification of concern about progressing toward closure of the Coal Creek site

2. 1. . - 0016 DATE: 02/11/85 PAGES: 1
AUTHOR: Hank Droge/DOE
ADDRESSEE: Lynda Brothers/DOE
DESCRIPTION: Memo regarding test results of PCB contamination

SUB-HEAD: 2. 2. . Work Plan

2. 2. . - 0001 DATE: 07/07/83 PAGES: 19
AUTHOR: Ron Raff/Lewis County PUD
ADDRESSEE: Jim Oberlander/DOE
DESCRIPTION: Work Plan - PCB Contamination, Coal Creek Site (plus cover letter)

SUB-HEAD: 2. 3. . Groundwater Investigation

2. 3. . - 0001 DATE: 09/28/83 PAGES: 16
AUTHOR: Patricia Taylor/Ch2M Hill
ADDRESSEE: Ron Raff/Lewis County PUD
DESCRIPTION: PCB Contamination Investigation and Remedial Action Evaluation

SUB-HEAD: 2. 4. . Sampling and Analysis Plan

2. 4. . - 0001 DATE: 08/06/84 PAGES: 15
AUTHOR: Patricia Taylor/Ch2M Hill
ADDRESSEE: Ron Raff/Lewis County PUD
DESCRIPTION: Submittal for scope of professional services to address soil and groundwater sampling

SUB-HEAD: 2. 5. . Sampling and Analysis Data

2. 5. . - 0001 DATE: 04/13/83 PAGES: 11
AUTHOR: /
ADDRESSEE: /
DESCRIPTION: Summary of PCB sampling data and 3 site maps

2. 5. . - 0002 DATE: 08/15/83 PAGES: 3
AUTHOR: Dennis Erickson/Ch2M Hill
ADDRESSEE: /
DESCRIPTION: Chain of custody reports

2. 5. . - 0003 DATE: 08/16/83 PAGES: 4
AUTHOR: Garry Duschl/Amtest, Inc.
ADDRESSEE: Dennis Erickson/Ch2M Hill
DESCRIPTION: Analysis report

2. 5. . - 0004 DATE: 01/28/84 PAGES: 10
AUTHOR: Particia Taylor/Ch2M Hill
ADDRESSEE: Ron Raff/Lewis County PUD
DESCRIPTION: PCB Contamination Investigation and Remedial Action Evaluation: Soils Investigation

2. 5. . - 0005 DATE: 06/28/84 PAGES: 4
AUTHOR: Mike Schlender/DOE
ADDRESSEE: Merley McCall, Jon Neel/DOE
DESCRIPTION: PCB Analysis of Selected sites in Lewis County, Washington

2. 5. . - 0006 DATE: 08/10/84 PAGES: 5
AUTHOR: Mike Schlender/DOE
ADDRESSEE: Merley McCall/DOE
DESCRIPTION: PCB Analysis of Ross Electric - Logan Hill Water Supply

SUB-HEAD: 2. 6. . Conceptual Design of Closure Plan

2. 6. . - 0001 DATE: 04/27/84 PAGES: 13
AUTHOR: Patricia Taylor/Ch2M Hill
ADDRESSEE: Ron Raff/Lewis County PUD
DESCRIPTION: Conceptual Design of Closure Plan

COAL CREEK ADMINISTRATIVE RECORD INDEX

HEADING: 3. 0. . SUPERFUND REMOVAL RESPONSE

SUB-HEAD: 3. 1. . Correspondence

3. 1. . - 0001 DATE: 12/06/84 PAGES: 2
AUTHOR: Jon Neel/DOE
ADDRESSEE: Don Dubois/DOE
DESCRIPTION: Request for technical assistance on evaluating potential hazard of PCB incineration ash

3. 1. . - 0002 DATE: 03/27/85 PAGES: 3
AUTHOR: Carl Kitz/EPA
ADDRESSEE: Jack Jojokian/TAT Project Officer
DESCRIPTION: Memorandum requesting special projects for Ross Electric preliminary site assessment

3. 1. . - 0003 DATE: 10/22/85 PAGES: 1
AUTHOR: Neil Thompson/EPA
ADDRESSEE: Jon Neel/DOE
DESCRIPTION: Request for comments on the TAT report

3. 1. . - 0004 DATE: 11/14/85 PAGES: 2
AUTHOR: Jon Neel/DOE
ADDRESSEE: Bill Yake/DOE
DESCRIPTION: Request for assistance to evaluate the impact of PCB transformer scrapping and incineration activity by Ross Electric

3. 1. . - 0005 DATE: 11/15/85 PAGES: 1
AUTHOR: Neil Thompson/EPA
ADDRESSEE: Gary Kalich/Lewis County PUD
DESCRIPTION: Letter regarding the final draft of the preliminary assessment and an outline of the next steps toward the completion of the closure plan

SUB-HEAD: 3. 2. . Sampling and Analysis Plans/Site Safety Plan

3. 2. . - 0001 DATE: 04/01/85 PAGES: 14
AUTHOR: Technical Assistance Team/EPA
ADDRESSEE: /
DESCRIPTION: Sampling Plan - Preliminary Site Assessment, Ross Electric Salvage Yard, Coal Creek Site, Chehalis, Washington

3. 2. . - 0002 DATE: 04/01/85 PAGES: 54
AUTHOR: Technical Assistance Team/EPA
ADDRESSEE: /
DESCRIPTION: Site Safety Plan - Preliminary Site Assessment, Ross Electric Salvage Yard, Coal Creek Site, Chehalis, Washington

SUB-HEAD: 3. 3. . Sampling and Analysis Data

3. 3. . - 0001 DATE: / / PAGES: 18
AUTHOR: /DOE
ADDRESSEE: /
DESCRIPTION: Data package with soil interpretations and well logs

3. 3. . - 0002 DATE: 04/24/85 PAGES: 4
AUTHOR: Melody Allen/Ecology & Environment
ADDRESSEE: John Osborn/EPA
DESCRIPTION: PCB screening results from Coal Creek

3. 3. . - 0003 DATE: 06/03/85 PAGES: 3
AUTHOR: Melody Allen/Ecology & Environment
ADDRESSEE: John Osborn/EPA
DESCRIPTION: PCB screening results from Ross Electric, Coal Creek

3. 3. . - 0004 DATE: 01/28/86 PAGES: 37
AUTHOR: Bert Hyde/Weston-Sper
ADDRESSEE: Dale Norton/DOE
DESCRIPTION: Sample data package plus cover letter

SUB-HEAD: 3. 4. . Preliminary Site Assessment/Interim Completion Report

3. 4. . - 0001 DATE: 05/01/85 PAGES: 25
AUTHOR: Technical Assistance Team/EPA
ADDRESSEE: /
DESCRIPTION: Interim Completion Report - Ross Electric, Coal Creek Site, Preliminary Site Assessment, Chehalis, Washington, 10 April - 1 May, 1985

3. 4. . - 0002 DATE: 09/01/85 PAGES: 70
AUTHOR: Technical Assistance Team/EPA
ADDRESSEE: /
DESCRIPTION: TAT Activities Report - Preliminary Site Assessment, Lewis County PUD, Coal Creek Site, Chehalis, Washington, 10 April to 1 May, 1985

SUB-HEAD: 3. 5. . Action Memorandum

3. 5. . - 0001 DATE: 03/20/84 PAGES: 2
AUTHOR: Gary O'Neal/EPA
ADDRESSEE: Ernesta Barnes/EPA
DESCRIPTION: Immediate removal action at Ross Electric/Lewis County site near Chehalis, Washington

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HEADING: 4. 0. . REMEDIAL INVESTIGATION/FEASIBILITY STUDY (RI/FS)

SUB-HEAD: 4. 1. . Correspondence

4. 1. . - 0001 DATE: 01/02/86 PAGES: 2
AUTHOR: Gary Kalich/Lewis County PUD
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Letter regarding the preliminary agenda for the meeting to discuss EPA's site assessment

4. 1. . - 0002 DATE: 07/01/87 PAGES: 2
AUTHOR: /EPA
ADDRESSEE: /
DESCRIPTION: EPA comments on revised work plan for the Coal Creek RI/FS

4. 1. . - 0003 DATE: 07/23/87 PAGES: 2
AUTHOR: C.P. Allen/Pacific Power
ADDRESSEE: Sharon Gwatkin/EPA
DESCRIPTION: Letter regarding schedule of events for RI/FS

4. 1. . - 0004 DATE: 07/28/87 PAGES: 2
AUTHOR: Rene Fuentes/EPA
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Review and comments on the preliminary site characterization and work plan

4. 1. . - 0005 DATE: 07/29/87 PAGES: 1
AUTHOR: Roy Jones/EPA
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Comments on Coal Creek PCB work plan

4. 1. . - 0006 DATE: 07/29/87 PAGES: 3
AUTHOR: /
ADDRESSEE: /
DESCRIPTION: Specific comments on Preliminary Site Characterization and Work Plan, Coal Creek PCB Site

4. 1. . - 0007 DATE: 08/01/87 PAGES: 3
AUTHOR: Dana Davoli/EPA
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Review of Hart-Crowser work plan

4. 1. . - 0008 DATE: 08/01/87 PAGES: 6
AUTHOR: Dave Terpening/DOE
ADDRESSEE: /
DESCRIPTION: DOE comments on work plan

4. 1. . - 0009 DATE: 10/22/87 PAGES: 1
AUTHOR: Charles P. Allen/Coal Creek Committee
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Cover letter which notifies EPA of changes incorporated into final work plan

4. 1. . - 0010 DATE: 02/26/88 PAGES: 2
AUTHOR: Jim Rybock/Hart Crowser
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Letter regarding the forwarding of the draft Project Operations Plan to EPA for their review and comments

4. 1. . - 0011 DATE: 04/07/88 PAGES: 1
AUTHOR: William Glasser/EPA
ADDRESSEE: Charles Allen/Pacific Power
DESCRIPTION: Letter regarding official approval of the amendment to the Project Operations Plan for the Coal Creek RI/FS

4. 1. . - 0012 DATE: 04/13/88 PAGES: 3
AUTHOR: James T. Rybock/Hart Crowser
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Cover letter for revised Coal Creek Project Operations Plan

4. 1. . - 0013 DATE: 06/28/88 PAGES: 2
AUTHOR: William Glasser/EPA
ADDRESSEE: Charles Allen/Pacific Power
DESCRIPTION: Letter regarding EPA oversight responsibilities for PRP's in the RI/FS process

4. 1. . - 0014 DATE: 09/27/88 PAGES: 3
AUTHOR: William J. Glasser/EPA
ADDRESSEE: Charles Allen/Pacific Power
DESCRIPTION: EPA comments on Coal Creek RI/FS Progess Report for period ending 8/15/88

4. 1. . - 0015 DATE: 12/19/88 PAGES: 38
AUTHOR: William J. Glasser/EPA
ADDRESSEE: T.M. Phillips/Coal Creek Committee
DESCRIPTION: Notification of EPA disapproval of draft RI/FS Response Action Plan. Includes comments from EPA and DOE

4. 1. . - 0016 DATE: 01/18/89 PAGES: 13
AUTHOR: C.P. Allen/Pacific Power
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Confirmation of submittal date for second draft RI/FS and a summary of responses to agency comments relating to the Coal Creek RI/FS

4. 1. . - 0017 DATE: 02/21/89 PAGES: 8
AUTHOR: J. Mark Morford/Stoel Rives Boley Jones & Grey
ADDRESSEE: /Coal Creek Steering Committee
DESCRIPTION: Analysis of the pertinence of EPA's PCB spill cleanup policy to the selection of a remedy to be implemented at the Coal Creek site

4. 1. . - 0018 DATE: 02/21/89 PAGES: 1
AUTHOR: C.P. Allen/Pacific Power
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Cover letter for revised copy of Coal Creek RI/FS

4. 1. . - 0019 DATE: 03/03/89 PAGES: 3
AUTHOR: Bill Glasser/EPA
ADDRESSEE: Robert E. Kievet/EPA
DESCRIPTION: Comments on 2/21/89 draft Coal Creek RI/FS

COAL CREEK ADMINISTRATIVE RECORD INDEX

4. 1. . - 0020 DATE: 03/08/89 PAGES: 6
AUTHOR: J. Mark Morford/Stoel Rives Boley Jones & Grey
ADDRESSEE: Richard Mednick/EPA
DESCRIPTION: Follow up letter to telephone conversation regarding the ARAR analysis in the 2/21/89 RI/FS for Coal Creek

4. 1. . - 0021 DATE: 03/09/89 PAGES: 2
AUTHOR: John Yearsley/EPA
ADDRESSEE: Leigh Woodruff/EPA
DESCRIPTION: Review of uncertainty analysis for risk assessment of Coal Creek Landfill

4. 1. . - 0022 DATE: 03/20/89 PAGES: 1
AUTHOR: C.P. Allen/Pacific Power
ADDRESSEE: Charles E. Findley/EPA
DESCRIPTION: Notification that amendment to "Preliminary Site Characterization and Work Plan, Coal Creek PCB Site" is acceptable

4. 1. . - 0023 DATE: 02/06/89 PAGES: 2
AUTHOR: Leigh Woodruff/EPA
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Review of Coal Creek Committee's responses to EPA's comments on the draft RI/FS

4. 1. . - 0024 DATE: 03/15/89 PAGES: 1
AUTHOR: Charles E. Findley/EPA
ADDRESSEE: Charles Allen/Pacific Power
DESCRIPTION: Proposal that the deadline as noted in the Schedule of Deliverables be amended

4. 1. . - 0025 DATE: 03/20/89 PAGES: 1
AUTHOR: C.P. Allen/Pacific Power
ADDRESSEE: Charles Findley/EPA
DESCRIPTION: Notice that the amendment as proposed will be accepted

4. 1. . - 0026 DATE: 04/26/89 PAGES: 9
AUTHOR: Leigh Woodruff/EPA
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Specific comments on Coal Creek RI/FS

4. 1. . - 0027 DATE: 06/19/89 PAGES: 5
AUTHOR: Leigh Woodruff/EPA
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Final comments on 2/21/89 draft RI/FS and comments on Risk Assessment tables submitted 5/11/89

4. 1. . - 0028 DATE: 07/05/89 PAGES: 3
AUTHOR: Patricia A. Cirone/EPA
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Review of Risk Assessment for Ross Electric Site

4. 1. . - 0029 DATE: 11/06/89 PAGES: 11
AUTHOR: Robert G. Sobeck, Jr./DOE
ADDRESSEE: William J. Glasser/EPA
DESCRIPTION: Review and comments on the executive summary, the remedial investigation, the feasibility study, and appendices for the Coal Creek Site

4. 1. . - 0030 DATE: 01/09/90 PAGES: 2
AUTHOR: Bill Glasser/EPA
ADDRESSEE: Files/EPA
DESCRIPTION: Memorandum concerning Coal Creek site visit by Bill Glasser and Ed Kowalski

4. 1. . - 0031 DATE: 02/01/90 PAGES: 4
AUTHOR: Robert G. Keivit/EPA
ADDRESSEE: Coal Creek PCB Site File/EPA
DESCRIPTION: Memorandum concerning flooding at Coal Creek

4. 1. . - 0032 DATE: 02/08/90 PAGES: 3
AUTHOR: Pat Cirone/EPA
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Review and Comment on Baseline Risk Assessment Coal Creek Site, Chehalis, Washington

4. 1. . - 0033 DATE: 04/18/90 PAGES: 3
AUTHOR: Pat Cirone/EPA
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Comments and remedial action goals for Coal Creek, Chehalis, WA

4. 1. . - 0034 DATE: 04/12/90 PAGES: 3
AUTHOR: Robert G. Sobeck, Jr./DOE
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Letter commenting on Hart Crower letter, 4/9/90; Coal Creek Steering Committee document "Coal Creek Preferred Remedy", 3/30/90; USEPA Draft Superfund Fact Sheet and proposed plan for Public Comment

4. 1. . - 0035 DATE: 12/14/88 PAGES: 3
AUTHOR: Rene Fuentes/EPA
ADDRESSEE: Coal Creek Steering Committee/
DESCRIPTION: Review of draft RI/FS for Coal Creek Site

4. 1. . - 0036 DATE: 12/14/88 PAGES: 4
AUTHOR: Robert G. Sobeck/DOE
ADDRESSEE: William J. Glasser/EPA
DESCRIPTION: DOE's comments on the draft RI/FS

4. 1. . - 0037 DATE: / / PAGES: 5
AUTHOR: Bob Kievit, Bill Glasser/EPA
ADDRESSEE: Coal Creek Steering Committee/
DESCRIPTION: Comments on Coal Creek RI/FS/Response Action Plan (RAP)

SUB-HEAD: 4. 2. . Work Plan

4. 2. . - 0001 DATE: 10/20/87 PAGES: 48
AUTHOR: /Hart Crowser
ADDRESSEE: /Coal Creek Committee
DESCRIPTION: Preliminary Site Characterization and Work Plan, Coal Creek PCB Site, Chehalis, Washington

SUB-HEAD: 4. 3. . Project Operations Plan

4. 3. . - 0001 DATE: 04/13/88 PAGES: 88
AUTHOR: /Hart Crowser
ADDRESSEE: /Coal Creek Committee
DESCRIPTION: Project Operations Plan, Coal Creek Site, Chehalis, Washington

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SUB-HEAD: 4. 4. . Monthly Progress Reports/Sampling and Analysis Data

4. 4. . - 0001 DATE: 06/02/88 PAGES: 4
AUTHOR: C.P. Allen/Pacific Power
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Progress Report for April 1988, Coal Creek RI/FS

4. 4. . - 0002 DATE: 06/14/88 PAGES: 2
AUTHOR: Jill Henes/Chemwest
ADDRESSEE: Lisa Lefkovitz/Hart Crowser
DESCRIPTION: Results of analytical work performed by Chemwest on ten soil samples and two water samples

4. 4. . - 0003 DATE: 06/15/88 PAGES: 60
AUTHOR: Charles Allen/Pacific Power
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Progress reports for April and May, 1988; analytical results and a cover letter are included

4. 4. . - 0004 DATE: 06/20/88 PAGES: 4
AUTHOR: Jim Rybock/Hart Crowser
ADDRESSEE: Charles Allen/Pacific Power
DESCRIPTION: Memo regarding preliminary physical and chemical data and findings in preparation for meeting with EPA

4. 4. . - 0005 DATE: 07/15/88 PAGES: 55
AUTHOR: Charles Allen/Pacific Power
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Progress report for June, 1988; analytical results and cover letter are included

4. 4. . - 0006 DATE: 09/06/88 PAGES: 7
AUTHOR: C.P. Allen/Pacific Power
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Coal Creek July Progress Report

4. 4. . - 0007 DATE: 03/17/89 PAGES: 63
AUTHOR: Mary Bandrowski/Ecology & Environment
ADDRESSEE: John Osborn/EPA
DESCRIPTION: Coal Creek monitoring well sampling data summary (Analytical data available by appointment at EPA Region 10 Headquarters, Seattle, WA)

4. 4. . - 0008 DATE: 01/30/90 PAGES: 84
AUTHOR: Charles Allen/Pacific Power
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: 12/21/89 surface water sampling results and lab certificates

4. 4. . - 0009 DATE: 01/15/90 PAGES: 6
AUTHOR: Douglas L. Hillman, James T. Rybock/Hart Crowser, Inc.
ADDRESSEE: Charles Allen/Pacific Power
DESCRIPTION: Summary of surface water sampling at Coal Creek PCB site

4. 4. . - 0010 DATE: 02/28/90 PAGES: 5
AUTHOR: Douglas L. Hillman, James T. Rybock/Hart Crowser, Inc.
ADDRESSEE: Charles Allen/Pacific Power
DESCRIPTION: Sediment Sampling and Upgradient Well Installation Coal Creek PCB Site

4. 4. . - 0011 DATE: 03/12/90 PAGES: 13
AUTHOR: Mark T. Otten/Hart Crowser, Inc.
ADDRESSEE: Charles Allen/Pacific Power
DESCRIPTION: Soil Volume Estimates at Coal Creek PCB Site

4. 4. . - 0012 DATE: 04/09/90 PAGES: 29
AUTHOR: Douglas L. Hillman, Lori J. Herman/Hart Crowser, Inc.
ADDRESSEE: Charles Allen/Pacific Power
DESCRIPTION: Sediment Sampling and Upgradient Well Installation Coal Creek PCB Site

SUB-HEAD: 4. 4. 1. Chain of Custody

4. 4. 1. - 0001 DATE: / / . PAGES: 13
AUTHOR: Laucks Testing Laboratories, Inc./
ADDRESSEE: /
DESCRIPTION: Chain of Custody forms for RI/FS

SUB-HEAD: 4. 5. . RI/FS Reports

4. 5. . - 0001 DATE: 08/15/89 PAGES: 37
AUTHOR: /Hart Crowser, Inc.
ADDRESSEE: /Coal Creek Committee
DESCRIPTION: Remedial Investigation/Feasibility Study Coal Creek Site Chehalis, Washington Executive Summary

4. 5. . - 0002 DATE: 08/15/89 PAGES: 255
AUTHOR: /Hart Crowser, Inc.
ADDRESSEE: /Coal Creek Committee
DESCRIPTION: Remedial Investigation/Feasibility Study Coal Creek Site Chehalis, Washington Volume I - Remedial Investigation

4. 5. . - 0003 DATE: 08/15/89 PAGES: 192
AUTHOR: /Hart Crowser, Inc.
ADDRESSEE: /Coal Creek Committee
DESCRIPTION: Remedial Investigation/Feasibility Study Coal Creek Site Chehalis, Washington Volume II - Feasibility Study

4. 5. . - 0004 DATE: 08/15/89 PAGES: 186
AUTHOR: /Hart Crowser, Inc.
ADDRESSEE: /Coal Creek Committee
DESCRIPTION: Remedial Investigation/Feasibility Study Coal Creek Site Chehalis, Washington Volume III - Appendices

SUB-HEAD: 4. 6. . Proposed Remedial Action Plan

4. 6. . - 0001 DATE: 03/30/90 PAGES: 29
AUTHOR: C.P. Allen/Coal Creek Steering Commitee; Hart Crowser
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Proposed Remedial Action Plan Coal Creek Site

COAL CREEK ADMINISTRATIVE RECORD INDEX

SUB-HEAD: 4. 7. . Supplementary Risk Assessment

4. 7. . - 0001 DATE: 04/18/90 PAGES: 27
AUTHOR: /EPA
ADDRESSEE: /
DESCRIPTION: Official Supplement to Coal Creek Risk Assessment Coal Creek RI/FS

SUB-HEAD: 4. 8. . Waiver Request - Coal Creek Steering Committee

4. 8. . - 0001 DATE: 10/18/89 PAGES: 35
AUTHOR: Charles P. Allen/Pacific Power
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Waiver request on behalf of the Coal Creek Steering Committee, for Waiver of Certain Technical Requirements of 40 CFR 761.75 (b) for Stabilization of PCB Contaminated Soil

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HEADING: 5. 0. . STATE COORDINATION

SUB-HEAD: 5. 1. . Correspondence

5. 1. . - 0001 DATE: 06/27/86 PAGES: 1
AUTHOR: Chung Ki Yee/DOE
ADDRESSEE: Lloyd Willis/City of Chehalis
DESCRIPTION: Letter in regards to parties embarking on a program to effect cleanup of PCB's at Ross Electric

5. 1. . - 0002 DATE: 11/28/88 PAGES: 1
AUTHOR: William J. Glasser/EPA
ADDRESSEE: Michael Wilson/DOE
DESCRIPTION: Solicitation of information pertaining to standards that DOE believes may be applicable to proposed remedial actions at Coal Creek site

5. 1. . - 0003 DATE: 02/16/89 PAGES: 1
AUTHOR: Michael A. Wilson/DOE
ADDRESSEE: William J. Glasser/EPA
DESCRIPTION: Confirmation of previous conversations regarding DOE's and EPA's roles at Coal Creek site

SUB-HEAD: 5. 2. . EPA/Ecology Agreement

5. 2. . - 0001 DATE: 02/09/90 PAGES: 1
AUTHOR: Carol L. Fleskes; Philip Millam/DOE; EPA
ADDRESSEE: /
DESCRIPTION: EPA/Ecology Agreement on Coal Creek, Woods Industry, and Strandley Site

COAL CREEK ADMINISTRATIVE RECORD INDEX

HEADING: 6. 0. . ENFORCEMENT

SUB-HEAD: 6. 1. . Correspondence

6. 1. . - 0001 DATE: 04/09/84 PAGES: 1
AUTHOR: Ernesta Barnes/EPA
ADDRESSEE: John Kostick/Lewis County PUD
DESCRIPTION: Letter stating that agreement is ready for signatures

6. 1. . - 0002 DATE: 04/09/84 PAGES: 1
AUTHOR: Gary H. Kalich/Lewis County PUD
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Cover letter for copy of agreement between EPA and PUD including one change to document

6. 1. . - 0003 DATE: 04/10/84 PAGES: 4
AUTHOR: Ron Raff/Lewis County PUD
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Response letter to issues discussed in meeting on 4/2/84

6. 1. . - 0004 DATE: 08/08/84 PAGES: 1
AUTHOR: Rene Remund, Attorney/Armstrong, Vander Stoep, Remund & Kelley
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Letter regarding Ch2M Hill's proposal for the fill area sampling plan

6. 1. . - 0005 DATE: 08/22/84 PAGES: 1
AUTHOR: Neil Thompson/EPA
ADDRESSEE: Ronald Ruff/Lewis County PUD
DESCRIPTION: Request for additional information from Ross Electric concerning the content of fill

6. 1. . - 0006 DATE: 08/29/84 PAGES: 1
AUTHOR: Rene Remund, Attorney/Armstrong, Vander Stoep, Remund & Kelley
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Letter requesting EPA to reconsider decision not to gather certain information from Ross Electric customers

6. 1. . - 0007 DATE: 09/06/84 PAGES: 1
AUTHOR: Neil Thompson/EPA
ADDRESSEE: Rene Remund, Attorney/Armstrong, Vander Stoep, Remund & Kelley
DESCRIPTION: Letter stating reasons for not contacting the suppliers of Ross Electric

6. 1. . - 0008 DATE: 11/13/84 PAGES: 2
AUTHOR: Rene Remund, Attorney/Armstrong, Vander Stoep, Remund & Kelley
ADDRESSEE: Jim Moore/EPA
DESCRIPTION: Letter regarding PUD's wish for EPA to notify Ross Electric's customers

6. 1. . - 0009 DATE: 11/21/84 PAGES: 1
AUTHOR: Ron Raff/Lewis County PUD
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Letter stating that PUD's legal counsel is working with EPA's regional counsel in regard to sending a letter to other PRP's

6. 1. . - 0010 DATE: 12/14/84 PAGES: 2
AUTHOR: Rene Remund, Attorney/Armstrong, Vander Stoep, Remund & Kelley
ADDRESSEE: Jim Moore/EPA
DESCRIPTION: Letter summarizing a regionwide utility briefing on EPA cleanup of PCB contaminated sites

6. 1. . - 0011 DATE: 03/08/85 PAGES: 1
AUTHOR: Ron Raff/Lewis County PUD
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Request for EPA to review sampling plan for fill area at the Coal Creek site, and that EPA contact other PRP's

6. 1. . - 0012 DATE: 03/27/85 PAGES: 2
AUTHOR: Robert Stein, Attorney/William Hougher, P.S.C.
ADDRESSEE: Jim Everts/EPA
DESCRIPTION: Letter expressing the desire to cooperate with EPA and confirmation of a telephone conversation regarding a request to discuss steps toward impending site testing and analysis

6. 1. . - 0013 DATE: 03/27/85 PAGES: 2
AUTHOR: Gary Kalich/Lewis County PUD
ADDRESSEE: Charles Findley/EPA
DESCRIPTION: Letter expressing disappointment over denial of request that EPA contact other liable parties involved at Coal Creek

6. 1. . - 0014 DATE: 04/01/85 PAGES: 1
AUTHOR: Gary Kalich/Lewis County PUD
ADDRESSEE: /EPA
DESCRIPTION: Notification from EPA that a consent order needs to be signed

6. 1. . - 0015 DATE: 04/10/85 PAGES: 1
AUTHOR: Gary Kalich/Lewis County PUD
ADDRESSEE: /
DESCRIPTION: Informational letter regarding EPA's emergency response team action at the Coal Creek site

6. 1. . - 0016 DATE: 06/21/85 PAGES: 1
AUTHOR: Neil Thompson/EPA
ADDRESSEE: Earl Weeks/Idaho County Light & Power
DESCRIPTION: Notification that Idaho County Light & Power will remain on PRP list until further notification

6. 1. . - 0017 DATE: 07/08/85 PAGES: 1
AUTHOR: Gary Kalich/Lewis County PUD
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Notification that PUD received 6/10/85 letter

6. 1. . - 0018 DATE: 07/15/85 PAGES: 1
AUTHOR: Neil Thompson/EPA
ADDRESSEE: Wayne Retzlaff/McKenzie Electric Cooperative Inc.
DESCRIPTION: Letter regarding the development of the initial PRP list and explanation that it is subject to revision

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6. 1. . - 0019 DATE: 07/22/85 PAGES: 1
AUTHOR: Neil Thompson/EPA
ADDRESSEE: Paul Rogers/City of Ellensburg
DESCRIPTION: Letter regarding the development of the initial PRP list and explanation that it is subject to revision

6. 1. . - 0020 DATE: 10/07/85 PAGES: 2
AUTHOR: Gary Kalich/Lewis County PUD
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Letter regarding the unavailability of the site assessment report, and a suggestion that EPA request information from PRP's about their use of the Coal Creek site

6. 1. . - 0021 DATE: 12/09/85 PAGES: 1
AUTHOR: Gary Kalich/Lewis County PUD
ADDRESSEE: 9¢ Addressees/
DESCRIPTION: Letter regarding EPA report being mailed to nine parties which were notified in June of their potentially liable status

6. 1. . - 0022 DATE: 12/11/85 PAGES: 1
AUTHOR: Gary Kalich/Lewis County PUD
ADDRESSEE: /Fall River Rural Electric Cooperative
DESCRIPTION: Letter inviting PRP's to a meeting to discuss the site assessment report and to consider whether an industry-sponsored program should be developed to permanently close the Coal Creek site

6. 1. . - 0023 DATE: 02/07/86 PAGES: 2
AUTHOR: Chris Luboff; Fred Shiosaki/Seattle City Light; Washington Water Power Co.
ADDRESSEE: /
DESCRIPTION: Letter asking for voluntary participation in Coal Creek ad hoc cleanup committee

6. 1. . - 0024 DATE: 02/19/86 PAGES: 3
AUTHOR: Ray Rigby, Attorney/Rigby, Thatcher, Andrus, Rigby & Perkes
ADDRESSEE: Charles Findley/EPA
DESCRIPTION: Letter from Fall River Rural Electric Cooperative's counsel denying any business transactions at Ross Electric's Coal Creek site

6. 1. . - 0025 DATE: 02/19/86 PAGES: 2
AUTHOR: William McCormick, Attorney/William A. McCormick
ADDRESSEE: Tom Giese/DOE
DESCRIPTION: Letter regarding agreement to participate in the planning and implementation of a clean-up program for the Coal Creek site

6. 1. . - 0026 DATE: 03/05/86 PAGES: 1
AUTHOR: Neil Thompson/EPA
ADDRESSEE: Ray Rigby, Attorney/Rigby, Thatcher, Andrus, Rigby & Perkes
DESCRIPTION: Letter explaining that investigation of PRP's is still under way and that not all PRP's will become responsible parties

6. 1. . - 0027 DATE: 03/19/86 PAGES: 1
AUTHOR: Fred Shiosaki/Washington Water Power Company
ADDRESSEE: Jim Everts/EPA
DESCRIPTION: Letter regarding the formation of a voluntary group of PRP's to deal with the implementation of the cleanup

6. 1. . - 0028 DATE: 04/21/86 PAGES: 2
AUTHOR: T.M. Phillips/Pacific Power & Light
ADDRESSEE: Jim Everts/EPA
DESCRIPTION: Letter regarding the formation of a volunteer group to deal with Coal Creek site

6. 1. . - 0029 DATE: 09/16/86 PAGES: 3
AUTHOR: Theodore M. Phillips/Coal Creek Committee
ADDRESSEE: Gerald Ross/Ross Electric
DESCRIPTION: Letter expressing displeasure at Ross' failure to join voluntary efforts to remedy the site situation

6. 1. . - 0030 DATE: 10/03/86 PAGES: 2
AUTHOR: Robert M. Stein, Attorney/Hougher, Miller & Stein, P.S.C
ADDRESSEE: Theodore M. Phillips/Coal Creek Committee
DESCRIPTION: Letter from Ross Electric attorney contending several points from previous correspondence

6. 1. . - 0031 DATE: 11/03/86 PAGES: 16
AUTHOR: Charles P. Allen/Coal Creek Committee
ADDRESSEE: Robert Eberle/General Services Administration
DESCRIPTION: Letter in response to 10/7/86 letter

6. 1. . - 0032 DATE: 02/02/87 PAGES: 2
AUTHOR: Robert Stein, Attorney/Hougher, Miller & Stein, P.S.C.
ADDRESSEE: Steering Committee Members/Coal Creek Committee
DESCRIPTION: Letter expressing desire to move forward on RI/FS despite the fact that Ross Electric was removed as a member of the steering committee

6. 1. . - 0033 DATE: 03/02/87 PAGES: 5
AUTHOR: Charles P. Allen/Coal Creek Committee
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Letter concerning memorandum of agreement and list of non-participating PRP's

6. 1. . - 0034 DATE: 12/21/87 PAGES: 2
AUTHOR: T.M. Phillips/Coal Creek Committee
ADDRESSEE: /
DESCRIPTION: Letter to PRP's informing the committee members of the Coal Creek Project progress

6. 1. . - 0035 DATE: 02/16/88 PAGES: 3
AUTHOR: Charles Allen/Pacific Power
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Letter regarding PRP signatures on the consent order

6. 1. . - 0036 DATE: 02/19/88 PAGES: 5
AUTHOR: C.P. Allen/Pacific Power
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Cover letter, copy of Coal Creek PRP listing, and DOE "comfort letter"

6. 1. . - 0037 DATE: 04/04/88 PAGES: 2
AUTHOR: Leslie Nellermoe, Attorney/Syrdal, Danelo, Klein, Myre and Wood
ADDRESSEE: Joan Shirley/EPA
DESCRIPTION: Letter regarding notification of decision on TSCA penalties

6. 1. . - 0038 DATE: 03/20/89 PAGES: 38
AUTHOR: Richard Mednick/EPA
ADDRESSEE: J. Mark Morford/Stoel, Rives, Boley, Jones & Grey
DESCRIPTION: Response to request for copies of purchase orders which pertain to the Ross Electric - Coal Creek site

6. 1. . - 0039 DATE: 08/14/89 PAGES: 3
AUTHOR: J. Mark Morford/Stoel, Rives, Boley, Jones & Grey
ADDRESSEE: Richard Mednick/EPA
DESCRIPTION: Letter in response to 3/20/89 letter including discussion of the ARARs analysis in the RI/FS

6. 1. . - 0040 DATE: 09/15/89 PAGES: 5
AUTHOR: J. Mark Morford/Stoel, Rives, Boley, Jones & Grey
ADDRESSEE: Richard Mednick/EPA
DESCRIPTION: Response to 8/29/89 conversation regarding remedial action to be undertaken at the Coal Creek site

6. 1. . - 0041 DATE: 01/29/90 PAGES: 1
AUTHOR: Charles Allen/Pacific Power
ADDRESSEE: /Coal Creek Steering and Legal Committee Members
DESCRIPTION: Notice that new and existing regulations could impact site cleanup

SUB-HEAD: 6. 2. . Administrative Orders, Complaints, Agreements

6. 2. . - 0001 DATE: 02/23/83 PAGES: 4
AUTHOR: Bruce Cameron/DOE
ADDRESSEE: Gary Ross; Ron Raff/Ross Electric; Lewis County PUD
DESCRIPTION: Order regarding the compliance by Ross Electric and Lewis County PUD with the rules and regulations of the DOE

6. 2. . - 0002 DATE: 04/09/84 PAGES: 5
AUTHOR: Ernesta Barnes/EPA
ADDRESSEE: Gary Kalich/Lewis County PUD
DESCRIPTION: Agreement to reach a common goal of a prompt resolution of the PCB contamination at the site

6. 2. . - 0003 DATE: 06/15/86 PAGES: 24
AUTHOR: /
ADDRESSEE: /
DESCRIPTION: Memorandum of Agreement

6. 2. . - 0004 DATE: 06/04/87 PAGES: 17
AUTHOR: Anita Frankel/EPA
ADDRESSEE: Gerald Ross/Ross Electric
DESCRIPTION: Notice of Legal Proceedings, Notice of EPA Complaint, Notice of Opportunity for Hearing, and for Settlement Meeting (includes cover letter)

6. 2. . - 0005 DATE: 02/19/88 PAGES: 28
AUTHOR: Charles Findley/EPA
ADDRESSEE: Gerald Ross/Ross Electric
DESCRIPTION: Administrative Order on Consent

6. 2. . - 0006 DATE: 05/18/88 PAGES: 66
AUTHOR: PRP's/
ADDRESSEE: Bill Glasser/EPA
DESCRIPTION: Coal Creek site Administrative Order on Consent signature pages

6. 2. . - 0007 DATE: 04/04/88 PAGES: 4
AUTHOR: Leslie Nellermoe, Attorney/Heller, Ehrman, White & McAuliffe
ADDRESSEE: /EPA
DESCRIPTION: Answer to Docket No. 1087-05-08-2615

6. 2. . - 0008 DATE: 08/19/88 PAGES: 7
AUTHOR: Robie Russell/EPA
ADDRESSEE: Leslie Nellermoe, Attorney/Heller, Ehrman, White & McAuliffe
DESCRIPTION: Consolidation of the two complaints (Docket Nos. 1087-05-08-2615 and 1088-03-109-2615) within a single agreement order

SUB-HEAD: 6. 3. . Notice Letters and Responses

6. 3. . - 0001 DATE: 04/17/84 PAGES: 8
AUTHOR: Alexandra Smith/EPA
ADDRESSEE: Various PRP's/
DESCRIPTION: Notice letter regarding PCB contamination of the Coal Creek site, request for information

6. 3. . - 0002 DATE: 04/20/84 PAGES: 5
AUTHOR: Gary Kalich/Lewis County PUD
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Response letter directing EPA to review Lewis County PUD letter of 4/10/84

6. 3. . - 0003 DATE: 04/30/84 PAGES: 2
AUTHOR: Thomas Cimino/Square D Company
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Response letter regarding PCB contamination of the Coal Creek site

6. 3. . - 0004 DATE: 05/10/84 PAGES: 7
AUTHOR: Gerald Ross/Ross Electric
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Response letter to request for information

6. 3. . - 0005 DATE: 08/29/84 PAGES: 1
AUTHOR: Charles Findley/EPA
ADDRESSEE: Gerald Ross/Ross Electric
DESCRIPTION: Notice letter requesting additional information pursuant to Section 104 of CERCLA

6. 3. . - 0006 DATE: 09/04/84 PAGES: 3
AUTHOR: Bob Ross/Ross Electric
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Letter responding to request for information

6. 3. . - 0007 DATE: 02/28/85 PAGES: 2
AUTHOR: Charles Findley/EPA
ADDRESSEE: Rene Remund, Attorney/Armstrong, Vander Stoep, Remund & Kelly
DESCRIPTION: Letter regarding differences between Coal Creek PUD site and Strandley site

6. 3. . - 0008 DATE: 03/22/85 PAGES: 2
AUTHOR: Charles Findley/EPA
ADDRESSEE: Gary Kalich/Lewis County PUD
DESCRIPTION: Letter regarding EPA's plan to initiate a site assessment, under CERCLA Section 104, at Coal Creek Site

6. 3. . - 0009 DATE: 03/22/85 PAGES: 1
AUTHOR: Charles Findley/EPA
ADDRESSEE: Gerald Ross/Ross Electric
DESCRIPTION: Letter regarding EPA's plan to make a site evaluation and a sampling plan

6. 3. . - 0010 DATE: 03/27/85 PAGES: 2
AUTHOR: Gary Kalich/Lewis County PUD
ADDRESSEE: Charles Findley/EPA
DESCRIPTION: Statement of insufficent time to respond to request for information

6. 3. . - 0011 DATE: 04/05/85 PAGES: 1
AUTHOR: Timothy Croll/Seattle City Light
ADDRESSEE: Charles Findley/EPA
DESCRIPTION: Letter advocating utilities to take environmental and financial responsibility to clean up Coal Creek Site

6. 3. . - 0012 DATE: 04/19/85 PAGES: 1
AUTHOR: Charles Findley/EPA
ADDRESSEE: Timothy Croll/Seattle City Light
DESCRIPTION: Letter addressing interest in becoming involved in the Coal Creek site

6. 3. . - 0013 DATE: 06/10/85 PAGES: 5
AUTHOR: Charles Findley/EPA
ADDRESSEE: Gary Kalich/Lewis County PUD
DESCRIPTION: 104 notice letter to potentially liable parties for activities at the Ross Electric Coal Creek site

6. 3. . - 0014 DATE: 06/13/85 PAGES: 1
AUTHOR: Earl Weeks/Idaho County Light & Power
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Request for removal from PRP list, as records show no involvement at the site

6. 3. . - 0015 DATE: 06/18/85 PAGES: 1
AUTHOR: Robert Dippold/McLean Electric Cooperative
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Request for removal from the PRP list

6. 3. . - 0016 DATE: 06/20/85 PAGES: 1
AUTHOR: Ralph Miller/Acme Trading & Supply Co.
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Letter regarding preliminary examination of records that indicate no sales of any type at Ross Electric

6. 3. . - 0017 DATE: 07/05/85 PAGES: 1
AUTHOR: Wayne Retzlaff/McKenzie Electric Cooperative
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Request for removal from the PRP list

6. 3. . - 0018 DATE: 07/16/85 PAGES: 1
AUTHOR: Paul Rogers/City of Ellensburg
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Letter claiming no potential liability due to business transactions with Ross Electric

6. 3. . - 0019 DATE: 01/09/86 PAGES: 3
AUTHOR: Earl Weeks/Idaho County Light & Power
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Letter claiming to have sent incorrect information about transactions with Ross Electric

6. 3. . - 0020 DATE: 05/09/86 PAGES: 2
AUTHOR: Charles Findley/EPA
ADDRESSEE: Gerald Ross/Ross Electric
DESCRIPTION: Notice letter requesting certain information

6. 3. . - 0021 DATE: 05/23/86 PAGES: 2
AUTHOR: Robert M. Stein/L. William Houger, P.S.C.
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Response to 05/09/86 notice letter

6. 3. . - 0022 DATE: 08/08/86 PAGES: 2
AUTHOR: Jay T. Downen/Montana Associated Utilities
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Statement of intent to spend money on environmental enrichment, not on breaucratic or legal exercises

6. 3. . - 0023 DATE: 04/17/87 PAGES: 1
AUTHOR: Calvin Wickham/Fall River Rural Electric Cooperative
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Letter requesting removal from the PRP list due to having done no business with Ross Electric

6. 3. . - 0024 DATE: 06/23/87 PAGES: 1
AUTHOR: William Strate, Attorney/
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Request for documentation concerning transactions involving McKenzie Electric

6. 3. . - 0025 DATE: 05/21/86 PAGES: 2150
AUTHOR: Robert M. Stein/Law Offices of L. William Houger
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Response to EPA information request - contains 2 page letter and roughly 2,150 pages of invoices from Ross Electric. This portion of the administrative record is availabe at U.S. EPA Region X Headquarters, Seattle, WA

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HEADING: 7. 0. . CONGRESSIONAL HEARINGS/INQUIRIES

SUB-HEAD: 7. 1. . Correspondence

7. 1. . - 0001 DATE: 07/11/84 PAGES: 2
AUTHOR: Don Bonker/Member of Congress
ADDRESSEE: William Ruckelshaus/EPA
DESCRIPTION: Letter regarding PCB contamination in Lewis and Thurston Counties, and the level of PCB's accepted on sites

7. 1. . - 0002 DATE: 07/18/84 PAGES: 1
AUTHOR: Don Bonker/Member of Congress
ADDRESSEE: Neil Thompson/EPA
DESCRIPTION: Letter regarding hazardous waste in Lewis County and a meeting held to discuss the problem

7. 1. . - 0003 DATE: 09/13/84 PAGES: 4
AUTHOR: William Ruckelshaus/EPA
ADDRESSEE: Don Bonker/Member of Congress
DESCRIPTION: Letter regarding facts and figures to date at Coal Creek site

HEADING: 8. 0. . PUBLIC PARTICIPATION

SUB-HEAD: 8. 1. . Comments and Responses

8. 1. . - 0001 DATE: 10/01/83 PAGES: 2
AUTHOR: Residents and Homeowners/
ADDRESSEE: To whom it may concern/
DESCRIPTION: A petition denoting feeling that it is inappropriate for Ross Electric to conduct business near the residential area

8. 1. . - 0002 DATE: 12/13/83 PAGES: 2
AUTHOR: Mrs. W.F. Fox, Jr./Homeowner
ADDRESSEE: Jim Oberlander/DOE
DESCRIPTION: Letter regarding the relocation of Ross Electric to Logan Hill

8. 1. . - 0003 DATE: 12/21/83 PAGES: 1
AUTHOR: Jim Oberlander/DOE
ADDRESSEE: C. Webb/Homeowner
DESCRIPTION: Response to a request for denial of storage of transformers at the Bucoda site

8. 1. . - 0004 DATE: 09/28/84 PAGES: 1
AUTHOR: Robert Stein, Attorney/L. William Houger, P.S.C.
ADDRESSEE: Charles Findley/EPA
DESCRIPTION: Letter regarding the representation of Ross Electric and a request to be informed of all developments at the site

8. 1. . - 0005 DATE: 12/28/87 PAGES: 4
AUTHOR: Gil Haselberger/EPA
ADDRESSEE: William Culliton/Orcas Power and Light Co.
DESCRIPTION: Response to Orcas Power and Light

8. 1. . - 0006 DATE: 03/10/88 PAGES: 1
AUTHOR: Michelle Anderson/EPA
ADDRESSEE: Rivkah Sass/Chehalis - Timberland Public Library
DESCRIPTION: Cover letter for RI/FS work plan

8. 1. . - 0007 DATE: 12/07/88 PAGES: 5
AUTHOR: Michelle Anderson/EPA
ADDRESSEE: Carl and Sandra Rife/Homeowners
DESCRIPTION: Letter containing sampling data from monitoring well on Rife's property

8. 1. . - 0008 DATE: 11/16/89 PAGES: 2
AUTHOR: Tom Nogales/
ADDRESSEE: /EPA
DESCRIPTION: Dioxin, EPA and American Crossarm, and Chronology of dioxin contamination by the American Crossarms and Conduit Factory; Received from Tom Nogales at Open House 11/16/89

SUB-HEAD: 8. 2. . Community Relations Plan

8. 2. . - 0001 DATE: 03/01/88 PAGES: 4
AUTHOR: /EPA
ADDRESSEE: /
DESCRIPTION: Community Relations Plan, Coal Creek Site, Chehalis, Washington

COAL CREEK ADMINISTRATIVE RECORD INDEX

SUB-HEAD: 8. 3. . Fact Sheets and Press Releases

8. 3. . - 0001 DATE: 04/10/84 PAGES: 2
AUTHOR: Neil Thompson/EPA
ADDRESSEE: /
DESCRIPTION: News release

8. 3. . - 0002 DATE: 02/23/88 PAGES: 3
AUTHOR: Bob Jacobson/EPA
ADDRESSEE: /
DESCRIPTION: News release

8. 3. . - 0003 DATE: 03/24/88 PAGES: 3
AUTHOR: Bob Jacobson/EPA
ADDRESSEE: /
DESCRIPTION: News release

8. 3. . - 0004 DATE: 04/18/88 PAGES: 1
AUTHOR: /EPA
ADDRESSEE: /
DESCRIPTION: Superfund Project Update - Coal Creek Site, Chehalis, Washington

8. 3. . - 0005 DATE: 11/08/88 PAGES: 2
AUTHOR: /EPA
ADDRESSEE: /
DESCRIPTION: Superfund Project Update - Coal Creek Site, Chehalis, Washington

8. 3. . - 0006 DATE: 05/04/90 PAGES: 9
AUTHOR: EPA/
ADDRESSEE: /
DESCRIPTION: Superfund Fact Sheet: the proposed plan which identifies EPA's preferred option for cleaning up the Coal Creek site

SUB-HEAD: 8. 4. . Public Meetings/Transcripts

8. 4. . - 0001 DATE: 06/06/90 PAGES: 32
AUTHOR: Cheri L. Davidson/Registered Professional Reporter, Gene Barker & Associates
ADDRESSEE: EPA/
DESCRIPTION: Transcript of Proceedings, June 6, 1990, Coal Creek Superfund Project Public Meeting

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HEADING: 9. 0. . TECHNICAL SOURCES AND GUIDANCE DOCUMENTS

SUB-HEAD: 9. 1. . EPA Headquarters Guidance

9. 1. . - 0001 DATE: 12/05/84 PAGES: 20
AUTHOR: Lee Thomas/EPA
ADDRESSEE: Regional Administrators/
DESCRIPTION: Memorandum: Interim CERCLA Settlement Policy

9. 1. . - 0002 DATE: 06/01/87 PAGES: 25
AUTHOR: /EPA
ADDRESSEE: /
DESCRIPTION: EPA Dioxin Toxic Equivalence Factors Guidance Document

9. 1. . - 0003 DATE: 09/29/88 PAGES: 48
AUTHOR: Bill Hanson/EPA
ADDRESSEE: Regional Superfund Branch Chiefs/
DESCRIPTION: Draft Working Paper on the Approach to Addressing PCB Contamination at Superfund Sites

9. 1. . - 0004 DATE: 02/21/89 PAGES: 7
AUTHOR: Henry L. Longest/EPA
ADDRESSEE: Regional Administrators/
DESCRIPTION: Advancing the Use of Treatment Technologies for Superfund Remedies

9. 1. . - 0005 DATE: / / PAGES: 7
AUTHOR: /EPA
ADDRESSEE: /
DESCRIPTION: RI/FS Work Plan Attachment I - Outline of a Model Statement of Work

SUB-HEAD: 9. 2. . EPA Regional Guidance

9. 2. . - 0001 DATE: 10/17/88 PAGES: 3
AUTHOR: Jim Orban/EPA Region 4
ADDRESSEE: Ron Whilhem/EPA Region 4
DESCRIPTION: Solidification of Organics - Containing Wastes? Pepper's Steel & Alloys Site

9. 2. . - 0002 DATE: / / PAGES: 2
AUTHOR: /
ADDRESSEE: /
DESCRIPTION: Dioxin Dechlorination by the KPEG Process, at Western Procesing, Inc.

9. 2. . - 0003 DATE: 03/30/89 PAGES: 3
AUTHOR: Bill Glasser/EPA
ADDRESSEE: Files/EPA
DESCRIPTION: List of EPA guidances used in the Coal Creek Administrative Record

9. 2. . - 0004 DATE: 05/04/90 PAGES: 5
AUTHOR: EPA/
ADDRESSEE: /
DESCRIPTION: List of EPA Guidances used in the Coal Creek Administrative Record

SUB-HEAD: 9. 3. . State Guidance

9. 3. . - 0001 DATE: 07/10/84 PAGES: 11
AUTHOR: DOE/
ADDRESSEE: /
DESCRIPTION: Washington Department of Ecology Final Cleanup Policy - Technical

9. 3. . - 0002 DATE: 03/25/85 PAGES: 7
AUTHOR: Andrea Beatty Riniker/DOE
ADDRESSEE: Ernesta B. Barnes/EPA
DESCRIPTION: Cover letter and outline of the WDOE Final Cleanup Policy

9. 3. . - 0003 DATE: 01/06/88 PAGES: 16
AUTHOR: /
ADDRESSEE: /
DESCRIPTION: Chapter 173-201 WAC - Water Quality Standards for Surface Waters of the State of Washington

SUB-HEAD: 9. 4. . Technical Sources

9. 4. . - 0001 DATE: 04/01/86 PAGES: 52
AUTHOR: J.L. Buelt and S.T. Freim/Battelle
ADDRESSEE: /Teledyne Wah Chang
DESCRIPTION: Demonstration of In Situ Vitrification for Volume Reductions of Zirconia/Lime Sludges

9. 4. . - 0002 DATE: 10/01/86 PAGES: 34
AUTHOR: /Battelle
ADDRESSEE: /
DESCRIPTION: In Situ Vitrification of PCB-Contaminated Soils

9. 4. . - 0003 DATE: 12/01/86 PAGES: 20
AUTHOR: V.F. Fitzpatrick, C.L. Timmerman, J.L. Buelt/Pacific Northwest Laboratory
ADDRESSEE: /
DESCRIPTION: In Situ Vitrification - A Candidate Process for In Situ Destruction of Hazardous Wastes

9. 4. . - 0004 DATE: 04/01/87 PAGES: 42
AUTHOR: S.J. Mitchell/Battelle
ADDRESSEE: /Americal Fuel and Power Corporation
DESCRIPTION: In Situ Vitrification of Dioxin-Contaminated Soils

9. 4. . - 0005 DATE: 05/31/88 PAGES: 76
AUTHOR: Donald L. Wilson/EPA
ADDRESSEE: /
DESCRIPTION: Report of Decontamination of PCB-Bearing Sediments

9. 4. . - 0006 DATE: 01/11/88 PAGES: 21
AUTHOR: L. Jay Field/NOAA
ADDRESSEE: /
DESCRIPTION: A Discussion of PCB Target Levels in Aquatic Sediments

9. 4. . - 0007 DATE: / / PAGES: 4
AUTHOR: /Geosafe Corporation
ADDRESSEE: /
DESCRIPTION: In-Situ Vitrification Treatability Study Objectives and Description

9. 4. . - 0008 DATE: / / PAGES: 3
AUTHOR: /
ADDRESSEE: /
DESCRIPTION: Application of In Situ Vitrification to Organic-Contaminated Soils and Sludges

9. 4. . - 0009 DATE: / / PAGES: 4
AUTHOR: /
ADDRESSEE: /
DESCRIPTION: In Situ Vitrification Bibliography

9. 4. . - 0010 DATE: / / PAGES: 4
AUTHOR: Joseph C. Greene et al/EPA
ADDRESSEE: /
DESCRIPTION: Comparison of Toxicity Results Obtained from Eluates Prepared from Non-Stabilized and Stabilized Waste Site Soils

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HEADING: 10. 0. . NATURAL RESOURCE TRUSTEES

SUB-HEAD: 10. 1. . Correspondence

10. 1. . - 0001 DATE: 12/15/88 PAGES: 1
AUTHOR: Lew (Consiglieri)/NOAA
ADDRESSEE: Bill (Glasser)/EPA
DESCRIPTION: NOAA concerns for the Coal Creek Site based on a review of the RI/FS